DOCUMENT RESUME

ED 163 052 TM 008 092

AUTHOR	Cook, Desmond L., Ed.; Stoycheff, Peter A., Ed.
TITLE	Educational Accomplishment Audit: Past, Present, and Future. Proceedings of A National Symposium on Perspectives on Educational Accomplishment Auditing.
SPONS AGENCY	Bureau of School Systems (DHEW/OE), Washington, D.C.; Ohio State Univ., Columbus. Educational Program Management Center.
PUB DATE	May 73
NOTE	138p.; Proceedings of a National Symposium (Columbus, Ohio, May 21-23, 1973) ; Parts marginally legible due to light print
EDRS PRICE	MF-$0.83 HC-$7.35 Plus Postage.
DESCRIPTORS	Cost Effectiveness; *Educational Accountability; *Educational Assessment; Elementary Secondary Education; *Evaluation Methods; Evaluators; *Federal Programs; *Program Evaluation; *Program Validation; Reports; Research Design; State of the Art Reviews
IDENTIFIERS	*Audits

ABSTRACT

The papers comprising these proceedings discuss the nature and purpose of the Independent Educational Accomplishment Audit (IEAA), a concept born in the late 1960's to establish accountability for mandatory technical assistance programs funded by the Elementary and Secondary Education Act: (1) origins and rationale of the Independent Educational Accomplishment Audit; (2) educational accomplishment audits or a major federal program: Title VII; (3) negative and positive aspects of requiring accomplishment audits for programs from the perspective of a program auditor; (4) identification and discussion of activities and competencies needed by an audit team to successfully audit programs; (5) selection, training, certification and employment of educational program auditors; (6) evaluation and the accomplishment audit: toward a unifying construct; (7) determination of appropriate evaluation design for projects; (8) validity, reliability, and margin of error of audit reports to verify educational evaluation reports; (9) adaption, development, and adoption of program auditing into current and new areas and a prediction of its future; and (10) role of auditing and validation in the Michigan Accountability Model. In his synthesis, Desmond Cook observes that there is little question about the favorable reception of the audit concept, its proceudres, techniques and training practices. Major problems however, remain unresolved. Is auditing technical assistance or should it be viewed as an independent operation for attesting/verification? If federal audits are no longer mandatory, should school districts accept audits on a voluntary basis? Several speakers cite the need for further research. (CP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED163052

EDUCATIONAL ACCOMPLISHMENT AUDIT: PAST, PRESENT, AND FUTURE

Proceedings of

A National Symposium on Perspectives on Educational Accomplishment Auditing

Sponsored by

Faculty of Educational Development
College of Education
The Ohio State University

and

Bureau of Elementary and Secondary Education
Office of Education
U.S. Department of Health, Education and Welfare

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Edited by

Dr. Desmond L. Cook,
Professor of Education and Psychology
Ohio State University

and

Peter A. Stoycheff
Research Associate
Ohio State University

Hilton Inn
Columbus, Ohio

May 21-23, 1973

TM008 092

TABLE OF CONTENTS

Preface.....iv

Acknowledgments.....vi

I. PAST

A. ORIGINS AND RATIONALE OF THE INDEPENDENT EDUCATIONAL ACCOMPLISHMENT AUDIT by Leon M. Lessinger.....I-1

II. PRESENT

A. EDUCATIONAL ACCOMPLISHMENT AUDITS OR A MAJOR FEDERAL PROGRAM: THE CASE OF TITLE VII by Richard Seligman.....II-1

B. THE NEGATIVE AND POSITIVE ASPECTS OF REQUIRING ACCOMPLISHMENT AUDITS FOR PROGRAMS FROM THE PERSPECTIVE OF A PROGRAM AUDITOR by Alfonso R. Rameriz..III-1

C. THE IDENTIFICATION AND DISCUSSION OF ACTIVITIES AND COMPETENCIES NEEDED BY AN AUDIT TEAM TO SUCCESSFULLY AUDIT PROGRAMS by Bernard J. Cohen.....IV-1

D. SELECTION, TRAINING, CERTIFICATION AND EMPLOYMENT OF EDUCATIONAL PROGRAM AUDITORS by W. E. Mellown Jr.....V-1

E. EVALUATION AND THE ACCOMPLISHMENT AUDIT: TOWARD A UNIFYING CONSTRUCT by A. Jackson Stenner.....VI-1

F. DETERMINATION OF APPROPRIATE EVALUATION DESIGN FOR PROJECTS by Mark M. Greene.....VII-1

G. THE VALIDITY, RELIABILITY, AND MARGIN OF ERROR OF AUDIT REPORTS TO VERIFY EDUCATIONAL EVALUATION REPORTS by Daniel P. Norton.....VIII-1

III. FUTURE

A. THE ADAPTION, DEVELOPMENT, AND ADOPTION OF PROGRAM AUDITING INTO CURRENT AND NEW AREAS AND A PREDICTION OF ITS FUTURE by Alfred J. Morin.....IX-1

B. THE ROLE OF AUDITING AND VALIDATION IN THE MICHIGAN ACCOUNTABILITY MODEL by C. Philip Kearney.....X-1

C. SYNTHESIS by Desmond L. Cook.....XI-1

APPENDIX A - List of Speakers

APPENDIX B - List of Participants

PREFACE

The decade of the sixties saw many innovations and changes in our society. It is not possible to catalog all of them nor really say which ones were most significant. Certainly, the first earth orbital mission and the lunar landing would be among outstanding events. To others, the federal legislation on civil rights would be equal in stature. For education personnel, the passage of the Elementary and Secondary Education Act of 1965 with its subsequent changes in succeeding years without doubt changed their world immediately and for many years to come. The speed and impact of such changes and the need for us to increase our ability to deal with them was aptly summarized for the decade by Tofler in his essays on "Future Shock".

Within each major event, there are a host of lesser events each contributing its share to the overall action. We are dealing with one of these smaller events at this time. While considered small in one sense, its eventual impact is yet to be fully known. Only history can give us a more valid perspective than we have at this moment.

One of the events contained within the Elementary and Secondary Education Act during the latter part of the sixties was the introduction of the concept of "accountability". Correlative with this if not identical to it was the concept of Independent Educational Accomplishment Audit. Upon assuming the position of Commissioner, Bureau of Elementary and Secondary Education, Dr. Lessinger recognized that if the programs supported under federal legislation and funding were to have an impact on education there would have to be a strong federal effort made to provide technical assistance to local school districts. Such technical assistance would take many forms from the planning of proposals to assistance in carrying out evaluation of the efforts. In the years 1968 and 1969, Dr. Lessinger initiated such a program of technical assistance and support. In summary, these efforts were designed insure that the programs would not only be well designed but that the funds provided would be used for the designated purposes. In brief, there was to be an emphasis on "accountability". The implementation of this concept took the form of the Independent Educational Accomplishment Audit. The papers contained in these proceedings will deal specifically with this topic in detail regarding its nature and purpose. It was the good fortune of the senior editor to have been involved in the initial training efforts carried out in 1969 to implement the concept in two program areas - Bilingual Education and Dropout Prevention. In addition to the initial training effort, the editors have been involved in the audit concept by carrying out contracted audit activities during the past three years. Being witness to and participating in this series of events and activities, led the senior editor to the perspective of seeing an emerging and evolutionary concept become a standard idea in educational circles. It seemed appropriate,

therefore, that some effort be made to capture and record the ideas, thoughts, reactions, feelings, policies, procedures, and practices that had developed over the four or five years since the inception of the audit concept. An opportunity existed for those who had been highly involved to make a contribution while their memories were still fresh and their interest still strong. Since the concept was a cosmopolitan and not a local idea, it was deemed desirable to have some type of national forum deal with the concept. Thus, the symposium idea was born.

Having conceived the idea, the question becomes one of how to carry it out. A final decision was made to structure a symposium with two major considerations in mind. First, the general theme should be one which surveyed the past, recognized the present, and dealt with the future. In short, where have we been? where are we now? and where will we go in the future with the audit concept? Second, those persons who were and are instrumental in each of these periods should be the major resources. Using knowledgeable individuals like Drs. Lessinger and Kruger, a list of professionally qualified persons highly involved in the audit concept was secured. Each speaker contacted was given the general theme and a specific topic within it. It was hoped that this thematic organization would provide both the participants at the conference and the reader of these proceedings with a state-of-the-art picture with regard to the concept of Independent Educational Accomplishment Audit. The final determination of whether or not this goal was accomplished will have to be made by the profession.

The symposium proceedings can be considered a major contribution to the field of education evaluation, administration, research, and management. As far as the editors, speakers, and participants know, no such compiliation of ideas exists except for these proceedings. It is hoped that they will serve as a stimulus to further discussion of the role and impact of the audit concept in the field of educational practice in the United States.

Desmond L. Cook, Director
Educational Program Management Center

Columbus, Ohio
May, 1974

ACKNOWLEDGMENTS

The planning and carrying out of the effort represented by these proceedings could not have been done effectively and efficiently without the aid of many agencies and persons. An expression of appreciation comes most often with a simple and direct statement of thanks for a job "Well Done". This tradition will be continued here.

Among the agencies making this symposium possible were the Faculty of Education Development, College of Education, The Ohio State University: The Bureau of Elementary and Secondary Education, Office of Education; U.S. Department of Health, Education, and Welfare; and the Research Foundation, The Ohio State University. The Faculty of Educational Development contributed by sponsoring the conference and allowing the editors time to plan and organize as well as participate. Resources were contributed in the form of secretarial services for preparation of the final copy of the proceedings. The Bureau of Elementary and Secondary Education, with special assistance from Dr. W. Stanley Kruger, contributed support for several of the speakers, and served in a strong advisory relationship to the entire effort. The Research Foundation, The Ohio State University by special arrangement made available financial support to defray costs of speakers, and the publication of the proceedings. Although they are viewed as individual contributions, together they made the conference possible.

A deep debt of gratitude is owed to the several speakers who spent much time and thought in the preparation of the position papers. In many cases, their contribution included defraying their own expenses. A symposium of this form required that the papers be of high quality in nature. The editors believe that the reader will find that this objective was met. The proceedings contain all of the papers from the several speakers with the exception of the remarks regarding the historical overview of auditing presented by Dr. W. Stanley Kruger at the first session. Persons interested in securing a copy of the presentation made by Dr. Kruger should write to him care of the Bureau of Elementary and Secondary Education, Office of Education, DHEW, Washington, D. C.

A special expression of thanks is due Peter A. Stoycheff. Mr. Stoycheff was the "honcho" in charge of securing speakers, arrangement of facilities, handling the financial accounts, and a host of similar tasks. His willingness to take on this general area with all of its attendant difficulties reflected his desire to make the symposium a most successful one. A review of the speakers listed herein along with the comments of those who attended bear witness to his contribution to the symposium.

Even with all of the collaborative effort in planning and carrying out the symposium, the final end product is the proceedings. This item could not have been achieved without the secretarial skills of Sharon Ice, Sandy Rich, and Donnette Ogg of the Faculty of Educational Development. Their patience in dealing with manuscript preparation under sometimes trying circumstances must be honored. To them, the editors are eternally grateful.

Desmond L. Cook
Symposium Director

Columbus, Ohio
May, 1974

ORIGINS AND RATIONALE OF THE INDEPENDENT EDUCATIONAL ACCOMPLISHMENT AUDIT

Leon M. Lessinger

Any serious student of the audit process in governmental affairs will know how unproductive it is to try to establish an origin to the concept of educational accomplishment auditing. In the most recent release by the Comptroller General of the United States, for example, the following basic elements of a governmental audit are given:

> Financial and compliance - determines (a) whether the financial operations are properly conducted, (b) whether the financial reports of an audited entity are presented fairly, and (c) whether the entity has complied with applicable laws and regulations.
>
> Economy and efficiency - determines whether the entity is managing or utilizing its resources (personnel, property, space, and so forth) in an economical and efficient manner and the causes of any inefficiencies or uneconomical practices, including inadequacies in management information systems, administrative procedures, or organizational structure.
>
> Program results - determines whether the desired results or benefits are being achieved, whether the objectives established by the legislature or other authorizing body are being met, and whether the agency has considered alternatives which might yield desired results at a lower cost.(1)

It was evident that by 1972, the role of governmental auditing has grown from the familiar and traditional interest in fiscal and compliance affairs to include that of the managerial. While the evidence is scanty, there is reason to believe that a major impetus for this relatively recent development may have been the activities of the U.S. Office of Education in implementing an independent educational accomplishment audit. It is this development which is the focus of the following discussion.

During the period 1968-1969, federal guidelines for the expenditure of discretionary funds in a portion of the Elementary and

Secondary Education Act mandated accountability provisions. One of those provisions was the Independent Educational Accomplishment Audit. An account of the history of those provisions is available.(2) In a previous work the author has described the application of accountability and the audit to school affairs.(3) But why was the audit proposed? What was to be its nature?

By 1968 it was evident that the American education system was experiencing sustained and diverse criticism. The schools were accused of failing to meet the requirements of society's neediest and most disadvantaged. The system was charged with waste, inefficiency and mismanagement. People were puzzled and angered about student unrest, teacher strikes and campus violence. Virtually everyone agreed that something had gone wrong and that corrective action was needed. The Congress and State Legislatures had responded but were increasingly dismayed in not securing desired changes. Taxpayers were rejecting many of the school tax levies they had been routinely approving. In this setting a call for accountability evoked ready acceptance and nearly universal approbation. The heart of this call for a renewed responsibility of educators for results in terms of student achievement was the Independent Educational Accomplishment Audit (IEAA).

It is a fundamental tenet of a democratic society to hold those entrusted with public resources and the authority for applying them, responsible for a full accounting of their activities. This accountability is inherent in the governmental process whether or not it is specifically identified in legislative provision. Public officials are accountable both to other levels of government for the resources such levels have provided and to the electorate -- the ultimate source of all governmental funds. And it has been a tradition to require the availability of public reports to other levels of government and to the electorate unless legal restrictions were in force. Auditing has always been an important part of the accountability process since it provides independent judgements of the credibility of public officials' statements about the manner in which they have carried out their responsibilities.

Independent fiscal reports had been applied to the fiscal side of education for many years with great success. The independent fiscal audit not only had resulted in the virtual abolition of shady financial practice but the professional recording, classifying, and interpretation of the economic facts of the enterprise have been done in a manner designed to produce data which encourages and permits effective management.

The Independent Accomplishment Audit was to be a process similar to that used in a fiscal audit. The emphasis, however, was to be on learning, on student performance as a result of the financial outlays.

Concern for results in education among the electorate is a relatively recent development.(4) It is apparent that we have moved from the stage of providing resources for student opportunities to a demand for information regarding the extent to which the resources have resulted in student learning. This is especially true of educational benefits conventionally called "the basic skills." One powerful indication of this significant shift from a resource allocation orientation to an accountability for results orientation is found in a brief review of the history of the Elementary and Secondary Education Act of 1965. The Act concentrated massive Federal resources upon the problems of institutional renewal and direct service to the poor and disadvantaged. Its language was that of providing resources such as equipment, teachers, space, books and the like. But by 1968 the questions put by the Congress in the period of the Act's operation moved beyond how the money was spent and for whom, to whether the students were learning, securing jobs, or falling behind. This insistence on accountability for results led to the imposition of new requirements for evaluation and to a national assessment of education.

Each word in the expression "independent accomplishment audit" was chosen to express the concept. A close look at each of the elements may be a useful way to display its meaning.

Independent

The community served by a school usually has little choice in the information and reports given it by the teachers, administrators, and board of trustees. Citizens and students generally are not in a position to ask that information be prepared according to their specifications, nor do they have assurance outside of mandated fiscal reports that the information is adequate or prepared according to some known set of ground rules.

A distinctive characteristic of the IEAA was the concept of a third party review to assess the "truth" as seen by the independent reviewers without sentimental, defensive, protectionist, or financial influence. Reliance on outside objectiveity was thought to nurture respect for the report as an honest accounting of what had happened to children's attitudes, skills and level of knowledge in relation to locally established objectives and goals. Credibility was to be enhanced by the fact that a third party had examined the results. Outside review is of fundamental importance in both business and government; its inclusion in the area of instruction was seen to be clearly in the best interest of the people.

Accomplishment

Results are the products, services, or other effects created by the school. Results achieved stand in contrast to resources consumed by the school. After all, every organization has, or at least is intended to have, outputs even though they may not be readily measurable or even

clearly definable. In other words every organization does something and that something is its output. In education what the organization does is to provide teachers and other personnel, materials, space, and certain processes to achieve student accomplishments. These accomplishments, as locally determined and valued, are the results which the outside review records and reports. Inputs may range from easily valued items such as purchased services and parts to intangible items such as professional expertise and architecturally beautiful surroundings. Employee development, satisfaction, and morale are relevant educational program outputs, as are taxpayer satisfaction and support. And, as inputs to the student learning process they determine, in part, its effectiveness. However, student learning is the primary concern--the raison d'etre of education. Student accomplishment was the prime output to be judged by the IEAA.

A word about what was implied in the term "measurement" is essential. Measurement is applied judgement. No measurement is exact. Judgement can be made on the basis of interviews, observations, and instruments, such as tests or video-tapes. Through the use of small-sample statistical techniques, judgements made on small numbers of students can indicate the performance of the entire student body served. The basic issue of measurement is the competency of the judge and the reliability and validity of the judgements. The range of judgements can be specified in a classification ranging from crude to rather exact. This full range of assessment was to be utilized in the IEAA.

Audit

An audit is a standard review conducted by someone who is qualified and trusted to make objective reports. During the early years of public education school board members performed an inspection function. Later this was done by superintendents and other officials. Rudiments of the inspection process may still be seen in the annual testing program of many school systems and States and in occasional visits by school officials. The IEAA was not to be a reincarnation of the inspection. Rather it was designed as a "management feedback loop," a reliable and objective report commending accomplishments realized and recommending procedures for getting reuslts missed.

It was anticipated that auditors would come from the ranks of professional educators, the laity, universities, and private enterprise. Training was thought to be essential. The fact that the process would place school people as well as clients in a problem solving mode was thought to be its most valuable feature.

In sum, the IEAA was to be a process, similar to that used in fiscal accounting, by which an outside individual or group reports on locally valued objectives. It was to be a new technique designed to put local school personnel and the clients they serve in a problem-solving mode of thinking. It was to be built around a financial core since money is a common denominator for the heterogeneous elements of inputs but its focus was upon student attitudes, skills, and knowledge. Out of the

IEAA a whole range of useful by-products was anticipated.

First, it was to lead to a knowledge of optimum relationships between outputs and inputs, i.e., those that are cost-effective or otherwise to be valued.

Second, it was to form a basis for the discovery and improvement of good practice in education.

Third, it was thought that it could help to renew credibility in the educational process, effect more responsiveness to the needs of children and supply the understanding necessary to produce change.

Finally, since the electorate is the most powerful of all our political agencies, techniques developed to convince its members of the benefits of responsible leadership through accountability for results would enable those interested in furthering education to better and more increasingly support the educational enterprise.

From the beginning, those of us interested in applying the audit process to education stressed varieties of proof and the use of many modes of assessment. The following set of seven are illustrative:

The local accomplishment test - Before the start of the sequence or program to be audited, a team may be employed to prepare two forms of an examination to be used as one of the elements of the audit. The team might be tutored as needed and the exam validated in another but similar part of the school system. The tests could then be given and the results reported. The auditor would then perform the necessary statistical and research refinements.

The standardized test - Standardized instruments might be selected by the system for use in the audit. These tests could be used as specified in the audit agreement, in periods before and after the program of instruction. The auditor would then report the results and make his recommendations.

The video-taped performance - Around agreed-upon objectives stated in performance terms, personnel might film clips of a given student's accomplishment before a learning sequence. At the end of the learning sequence, the same objective could be displayed by the demonstrated performance of the same student on another video-taped clip.

Non-intrusive measures of performance - Performance indicators might be developed with the auditor such as books taken from the library, measures of vandalism, job acquisitions rates, college success factors and the like. Data would then be presented to the auditor or gathered by the auditor for the public report.

Situation tests - Simulations in important areas could be devised.

Students could then be placed in situations involving leadership, judgement, work behavior, et cetera, and their performance recorded. The report would then be based on teacher prediction of demonstrated student behavior.

The student as teacher - One important phase of the accomplishment audit might consist of judging the student's competence in teaching the auditor what he has learned. It is well known that a good test of learning is the ability to teach another person to perform. In this process, personnel might prepare the accomplishment exercises to specifications previously agreed-upon with the auditors. The auditor could take then this examination using only that knowledge and insight he has gained from the student.

Student products - Personnel might specify the products i.e., compositions, art samples, that will be produced, the conditions that will be used and the standards to be applied for judging. The auditor would then review statistically adequate samples of student products and select a sample of students to produce similar products for audit.

Conclusion

No discovery is accepted in science unless and until qualified third parties can verify it. And every business, including the business of government is subjected to a regular, recurring fiscal audit. Generally the review is done by certified public accountants using standards known to all. In the same way, providing an external review and assessing promised student accomplishment in terms of the conditions and standards of those who made the promises is essential to accountability in education.

Learning itself is a function of feedback - of knowledge of results. Without the evidence of an action or an activity, the learner cannot improve. The same is true of an organization such as a school. Through an independent accomplishment audit, decision makers can guage the results of a given program or its entire offering in terms of what its students can do and thus determine whether to continue a program and/or how and whether to improve it.

FOOTNOTES

[1]Comptroller General of the United States. Standards for Audit of Governmental Organizations, Program, Activities and Functions. United States General Accounting Office, 1972. p.2.

[2]Lessinger, Leon M. "A Historical Note on Accountability in Education." Journal of Research and Development in Education Volume 5, No. 1, Fall 1971 pp. 15-18.

[3]Lessinger, Leon M., Every Kid A Winner, Palo Alto, Science Research Associates 1970.

[4]Concern for results in education has a long history. The Satan Deluder Act of 1647 is a prime example. The statement is meant to suggest a phenomenon of awareness among the general public which had dimenished during at least a fifty year period.

EDUCATIONAL ACCOMPLISHMENT AUDITS OF A MAJOR FEDERAL PROGRAM: THE CASE OF TITLE VII

Richard Seligman

Introduction

This afternoon I would like to present some findings from a study which several of my UCLA colleagues and I are now completing.(1) The study is concerned with the relationship between evaluation and decision making and uses as its data source a major federal education program, ESEA Title VII. Since the focus of our symposium is on the educational accomplishment audit, I shall limit my presentation to those aspects of the study that are directly related to the audit.

I'll begin with a brief description of CSE, the agency which undertook the study and then describe the study itself. I plan to spend time looking in detail at some of the specific findings as they relate to the audit and, finally, will offer some interpretations of those findings.

About the Center

The Center for the Study of Evaluation, located at UCLA, is one of eight university-affiliated educational research and development centers supported by the National Institute of Education. The Center, founded in 1966, is concerned exclusively with research and development in the area of the evaluation of instructional programs and has as its mission the improvement of the practice of educational evaluation. Over the last several years the Center has carried out this mission by developing a numberof practical products designed to assist educators in improving their evaluation work. What the Center has not done, until recently, is to do what its name implies, that is, study evaluation. There are a variety of reasons for this, but probably the most important one is the general lack of evaluation data to study. It is only within the last few years that educational programs at national, state, and local levels have begun to require systematic evaluations.

The Center has developed its own framework of educational program evaluation. It is one that sees evaluation as an activity designed to assist decision makers in improving the programs for which they are responsible by providing them with useful information which will lead, hopefully, to improved decisions, and in turn, to

general program improvement. This is hardly a revolutionary notion. Yet, as one looks at the field of evaluation, one finds precious little evidence of this positive relationship between the existence of an evaluation effort and the subsequent improvement of educational programs. As strong advocates of the virtues of educational program evaluation, we at the Center became somewhat anxious about this lack of evidence and began to consider a research effort which might shed some light on the question. These considerations, dating back some two years, have led us to the study which I will now describe.

The Title VII Study

As we surveyed the literature on the study of evaluation, we found a dearth of work in which systematic, empirical investigations had been undertaken. We thought that such an investigation would be instructive, not only in terms of exploring the relationship between evaluation and decision-making, but also in terms of identifying and describing those specific procedures which had been employed in the name of "evaluation."

We selected a major federal education program, ESEA Title VII, Bilingual Education, as the focus of our study for several reasons: the diversity of projects funded under Title VII, the stipulation that each project be evaluated and audited, the experience of our staff in Title VII evaluations and audits, and, finally, the cooperation and enthusiasm of the Title VII staff in Washington. Stan Kruger, one of the organizers of this symposium, was instrumental in getting the study approved by the Bureau of Elementary and Secondary Education.

The procedure for conducting the study was to have each USOE program officer in Title VII select, from among the projects under his supervision, three judged to be "above average," three judged to be "average," and three judged to be "below average in overall quality." In this manner, 58 projects out of approximately 130 were selected as the basic sample. For each project an attempt was then made to collect three documents: (1) the proposal for funding in the 1970-71 school year, (2) the evaluation report submitted at the end of the 1970-71 school year, and (3) the educational audit report for the same period. As one of the individuals who spent several days in the dungeons at the Title VII headquarters in Washington, I can assure you that this was no small task! For some projects, these documents could not be obtained. Where the audit report was the only missing data, the project was retained in the sample. In instances where repeated attempts to obtain missing reports both through file searches at USOE and requests from project directors still yielded no data, the project was dropped from the dropped from the study. Thus, of the 58 projects sampled, only 42

were subjected to further analysis.

For each project there were three pieces of "federal" data: the rating by the USOE project monitor, the funding levels for the school years beginning in 1970, 1971, and 1972, and the percentage change in project funding from one fiscal year to the next. These formed the dependent variables in the data analysis.

The independent variables are drawn from the three project documents to which I have already referred (continuation proposal, evaluation report, and audit report). To obtain and summarize the information contained in the reports, two instruments were constructed: the Evaluation Data Sheet and the Audit Data Sheet. The first addressed the characteristics of the evaluation team, various duties performed by the evaluators, data collection techniques, testing instruments and types of analyses employed during formative and summative evaluation, and the content and format of evaluation reports. The Audit Data Sheet dealt with the characteristics of the auditor, with the audit procedures which were employed, with the auditor's perceptions of the evaluation procedures, and with the scope of the audit report.

A staff of three research assistants, all doctoral candidates in evaluation, worked as raters completing the Evaluation and Audit Data Sheets based upon a thorough examination of these documents. The raters were not aware of the USOE monitor's rating of the project or of the project's funding level. Two independent ratings were made of each audit and evaluation report. Points of disagreement in the ratings were then adjudicated by a third rater. It was the adjudicated ratings that were used as the basis for analysis. The primary analysis consisted of the generation of descriptive statistics, Chi square tests, and simple correlations. For the remainder of this session, I would like to focus exclusively on the data concerned with the educational program audits of our sample of 42 Title VII projects.

The Findings

Turning to the data obtained from the completion of audit data sheets on the thirty-nine projects, we will examine the characteristics of the auditors, the procedures which they employed in their work, the judgments which they made of the evaluations and, finally, the scope of their reports.

Auditor characteristics--The most striking characteristic about the audit reports is the absence of information on the auditors themselves. In terms of formal education, we know only that one-third hold doctor's degrees. We know virtually nothing either about

their field of study or about their professional affiliation (although in most cases where a professional affiliation was given, it was with a private agency). Perhaps this information was not considered essential in a final audit report. It would, however, have been most interesting for the purposes of our study.

Audit procedures--In our audit data sheet, 52 audit procedures were enumerated. These were derived from a careful examination of the literature on independent audits, including USOE guidelines, the Morin handbook, and the materials assembled by IDEA. Let us look first at those procedures which were "characteristic" of the audits in our sample (I shall define "characteristic" as being those cases in which a procedure was reported in at least 75%, or 29 of the cases). The most commonly employed audit procedure was the site visit (it is worth noting, however, that two projects in our sample did not include an on-site visit by the auditor). The second most commonly employed technique involved an examination of raw data gathered by the evaluator. Such data included test results and questionnaire results. Unfortunately, most of the audit reports did not go on to indicate how these data were examined by the auditor and what procedures, if any, were employed to verify the data gathered by the evaluator. There were relatively few instances where the accuracy of the evaluator's data was questioned by the auditor.

Nearly all of the auditors reported reviewing the measurement tools employed by the evaluators. In most cases, however, the auditors did not indicate the procedures which were employed in the review of instrumentation, i.e., what criteria were used in judging the adequacy of appropriateness of the tests. Furthermore, it was rare for the auditor to question or challenge the evaluator's selection of instrumentation.

Most of the auditors reported conducting interviews with project personnel, generally with the project director and other staff. Interestingly enough, only 7 of the 39 audits report interviews with students.

As one might expect, virtually all of the auditors reported that they used the reports of the evaluator in conducting their audits.

Having looked at a few of the most commonly employed audit techniques, let us consider some of the least frequently employed audit procedures. Only one of the auditors administered his own tests or questionnaires. Virtually none of the auditors reported looking at "archival" information, i.e., newspaper clippings, staff correspondence, students' cumulative records and letters from members of the community. Most of the auditors did not report the use of either the evaluation proposal or the interim evaluation report in their work. This last finding may be related to the fact that our data are based on the contents of the final audit report, whereas one would expect that

several of these items would have been treated in the interim audit reports.

A consideration of the procedures which were used by the auditors leads to the conclusion that the commonly acknowledged audit paractices were employed: site visits, reviews of instrumentation, interviews with staff, examiniation of final evaluation report. The auditors did not administer their own tests, nor did they make extensive use of project archival data.

When reading about the educational accomplishment audit, one invariably comes across the notion that part of the audit function should include a re-analysis of part, if not all, of the data which the evaluator has collected and reported. Only in this manner, it is reasoned, can the auditor truly verify the evaluator's findings. Our study yielded few, if any, examples of the re-analysis of evaluators' data by the auditors. Nevertheless, it seems fair to conclude that, in general, auditors were doing those things which auditors are supposed to do. The data suggest, however, that auditors should be more attentive to describing in detail the procedures which they employ. It sould be pointed out that a number of the auditors were rather vague about just what they did. There is no room for ambiguity in these matters if the findings of the auditor are to be accepted with confidence.

Auditor's judgments on the quality of evaluation procedures--One of the primary functions of the independent educational accomplishment audit is to make judgements about the quality of the evaluation. A major section of the audit data sheet dealt, therefore, with those aspects of the evaluation about which the auditor commented and made qualitative judgments. Those aspects of the evaluation which were typically commented upon by the auditors included (a) the general evaluation design, (b) the assessment techniques, (c) testing instruments, (d) accuracy of data gathered, (e) analysis of raw data, (f) appropriateness of data collection techniques, (g) completeness of report, and (h) documentation of results. On each of these aspects of the evaluation, as well as a number which have not been mentioned, a rating ranging from -3 to +3 was assigned to the auditor's judgment. At one extreme, -3, the auditor was saying that the evaluation was poor with respect to that particular item. At the other extreme, +3, the auditor was making a most favorable judgment about the evaluation. In the middle, 0, the auditor simply reported that an item had been attended to by the evaluation but made no attempt to judge the quality of the evaluation effort.

Turning back to those aspects of the evaluation report frequently commented on by the auditor, we find that the item "accuracy of data gathered by the evaluator" received a mean rating of 1.75, that is, above average in quality. Thus, the auditors, while not

likely to re-analyze the evaluator's data, were also not likely to question the accuracy of the data. The item "general evaluation design" received an average rating of 1.22, which again represents a positive judgment on the part of the auditors. For most of the other items, the auditors' judgments ranged between 0 and +1 (e.g., assessment technique .94, testing instruments .77, analysis of raw data .30, appropriateness of data collection techniques .97, completeness of report 0.0). These findings lead to two possible interpretations. One might conclude that the auditors were making "cautiously positive" judgments about the evaluators' work in the area of data analysis. On the other hand, the auditors may have been content to report that these activities were discussed by the evaluator without making any judgments about the quality of the evaluator's work. In either case, the auditors were not willing to make extreme judgments regarding the evaluator's skills in data analysis. This may reflect the auditors' lack of expertise in statistical analysis, i.e., they were unwilling to be particularly critical in those areas where their own knowledge might be weak.

In general, the auditors viewed the evaluators' work in neutral or only slightly positive terms. Relatively few extreme judgments were made in either direction. The auditors appear, on the whole, to have been rather kind in their judgments.

Scope of the audit report--Our analysis of the scope of the audit report dealt with two issues: the auditor's agreement with evaluators' findings and the areas of the program in which modifications were recommended by the auditor. With respect to the evaluation findings, the auditors tended to support the evaluators' conclusions regarding student cognitive achievement, staff development, and parent-community involvement. There were indeed few cases where the auditor specifically disagreed with or disputed the evaluator's findings. In those cases where "agreement" was not reported, the auditor generally did not comment on the evaluator's findings.

The program areas where auditors most frequently recommended modifications were the design of the evaluation and the data collection techniques. Clearly these areas are entirely appropriate for consideration by the auditor. One wishes, in fact, that the auditors' recommendations for program modification in these areas had been even stronger. It is worthwhile to note the areas of the program in which auditors did not make recommendations: staff development, community involvement, inservice training, design of the instructional program. Auditors have been admonished to avoid becoming involved in program management. Our data suggest that they have not been involved.

Raters' judgments--Finally, let us consider the judgments which our raters made of these audit efforts. Twenty of the 39 audits were described by our raters as either "very useful" or "fairly useful." Eighteen were described as "of limited use" while only one was thought to be "of no use." The auditors' attitudes toward the evaluations were described as "positive, but fair" in 21 cases, as "critical, but fair" in 14 cases, and as "overly positive" in four cases. In no case was an audit described as hypercritical or a fault-finding exercise.

Before concluding the presentation of findings, I would like to add two additional bits of data. The first involves the results of a series of correlations which were computed between the auditor's overall judgment of the quality of the evaluation and his judgments of the quality of several specific elements in the evaluation. The following correlations, all significant at the .01 level, are worth noting: (a) quality of assessment technique ($r = .71$), (b) quality of data analysis ($r = .67$), (c) quality of interpretation of results ($r = .79$), (d) quality of format of evaluation report ($r = .79$). To be sure, there is some danger in drawing hard-and-fast conclusions from such data. Nevertheless, the general trends seem quite appropriate. The auditor's overall judgment of evaluation quality is clearly related to his judgment of those central evaluation functions of data collection, analysis, interpretation and reporting.

A second, and final, additional source of data comes from a supplementary questionnaire which was sent to the director of each of the 42 projects included in our study. It should be noted, in passing, that we had a response rate of 100% on this questionnaire. The project directors were asked to indicate the extent to which they were influenced by the auditors' recommendations for program modification. Thirty-seven of the directors reported that the auditors' recommendations were either very influential, influential, or somewhat influential. In contrast, only 5 project directors reported that the auditors' recommendations were not very influential. These data suggest, therefore, that the independent educational accomplishment audit was viewed as a positive force in the improvement of Title VII projects.

Discussion and Conclusions

This afternoon I have shared with you the results of one of the first sutdies, if not the first, of the actual conduct of independent educational accomplishment audits. The data for this study were gathered from a detailed, systematic, rigorous examination of a sample of 39 audit reports of Title VII bilingual education projects prepared during the 1970-71 school year. The data suggest that these audits have been carried out in accordance with the general intent of the educational program audit. Those activities in which auditors are

expected to engage did in fact take place in most occasions. Auditors were able to make judgments about evaluation procedures and were able to make recommendations for modification on those areas of the program related to the evaluation. Further, it was noted that project directors found the work of the auditors useful in improving their programs in subsequent years.

The independent program audit is a new concept and, as such, has not been implemented with complete perfection. Our study of audit reports has led to several recommendations which should improve the effectiveness of the audit activities. Auditors should be encouraged to clearly and precisely detail the activities in which they were engaged and which serve as the basis for their judgments about the evaluation in particular and the program in general. There should be no mystery surrounding the procedures which were employed by the auditor. Accountability requires full disclosure. As an example, when auditors report having examined the evaluator's raw data or his assessment instruments, they should indicate the specific criteria and procedures which were employed in those examinations.

The auditors tended to avoid making strong or harsh judgments about the evaluation efforts which they reviewed. Their timidity is quite understandable. The audits in question were completed some two years ago when the concept was even newer than it is today. Furthermore, there is an inclination among the auditors to practice "professional courtesy" toward the evaluator (after all, he may be auditing you next year!). I do not advocate abandoning courtesy, tact, or diplomacy. Rather, I suggest that as we become more sophisticated in our understanding of what evaluation and auditing are all about, we hold the evaluators and auditors to more rigorous standards. This may mean that auditors will have to become more "tough" about what they consider to be "acceptable" evaluation practice.

Finally, our study suggests that relatively few auditors have attempted to re-analyze the evaluator's data for purposes of verification. There are a variety of possible explanations for this fact, including the limitations of time, funds and some question as to the values to be derived from such activities. Thus, it seems that those who are responsible for commissioning audits should give some consideration to the desirability of requiring this particular procedure.

The data reported in this study, as well as my experiences as an independent educational accomplishment auditor, suggest that this procedure has been successful to date, that it should be continued and even expanded to include a wide number of educational programs which presently go "unaudited." While there is clearly room for improving the manner in which audits are carried out, there is every reason to believe that these improvements will come.

FOOTNOTES

[1]Others at the Center for the Study of Evaluation who have worked on this project are Marvin C. Alkin, Jacqueline Kosecoff, Joe Wingard, Carol Fitz-Gibbon, and Betty Gibbs.

THE NEGATIVE AND POSITIVE ASPECTS OF REQUIRING ACCOMPLISHMENT AUDITS FOR PROGRAMS FROM THE PERSPECTIVE OF A PROGRAM AUDITOR

Alfonso R. Rameriz

My assignment, as I understand it, is to give an honest reaction to Educational Accomplishment Auditing from my experience as a project director. It's much like a laboratory mouse telling the experimenter how it felt in the maze. An unusual opportunity, and one enthusiastically welcomed by this greying veteran of "MANY A MAZE" under various titles of NDEA and ESEA.

It's important to first give you a brief description of the state of elementary education--South Texas style--and from what I see in other Southwestern States. We're not abnormal--which means that we're all in bad shape.

Twenty-five years ago, the state of Texas paid its share of public education on the basis of the number of names on the scholastic census rolls--whether or not those names represented children actually in school. If you can't immediately imagine how local school boards used this financing plan to favor the few and keep the unwanted from receiving free instruction you are too pure of heart and I don't want to be the one to disillusion you. But the rest of us know what it lead to - mostly generations of unschooled "Mexicanos".

The first generation of Texans to attend school under honest compulsory education laws--those that paid school districts for children actually in attendance--started in 1948. The children of that historic class were born in 1942. If they married at 20 and had a child at 21--the earliest class of the second generation to enter school was the one entering first grade in 1969--only 4 years ago!!!!

None of this is intended to suggest that most Mexicanos have to be forced to go to school nor that the schools refuse to instruct those who show up. I'm mentioning it because you mustn't believe that we have had universal education prior to Title VII, program auditing, revenue sharing or whatever. The system was working in such a way that by 1960, the median years of school attendance for Spanish-surnamed persons over 25 was between 4 and 6 years in my area.

You must also understand that we were offering children when they did come to school--the same books (euphemistically referred to as "curriculum") that the state provided for everyone else--nothing undemocratic about that!

If we examine the materials and methods used in the primary schools in my part of the state and talk to the teachers who use them, as well as to the principals and superintendents who administer the schools we come to these conclusions:

1. The book is the curriculum--whether designed for those children's needs or not--

2. The guide to that book, if it exists, is the sole source of that teacher's direction in that course

3. The covers of a book, such as a second grade arithmetic book, are also the parameters of the course

4. The principal does not usually know if the classes are progressing satisfactorily through any or all of the courses and does not take remedial action upon learning that they are not, nor is likely to know what to do if asked

5. The superintendent leaves it up to the principal

6. The state leaves it up to the superintendent

It's a clear picture of an unplanned, unsupervised, unresponsive, monopolistic enterprise. Of course, it's not all bad. Some children do get educated. But it's like this group taking the bus to the airport when the conference is over and getting on planes in random fashion. The plane I get on may get me back to Texas but I'm supposed to go to Washington from here. Public Education has been almost that haphazard an enterprise during my lifetime.

Now enter the feds with public monies to distribute. Nothing wrong with that--Education's in trouble and the lure of the golden carrot may get us to pull harder and maybe even to change direction. So we write a proposal and some of us get "funded". And now we add a level of "accountability"--the teacher has not really been accountable to the principal nor he to the superintendent, nor he to the state department of education--and now we have added someone else that we don't have to be accountable to--O.E.

Pure hearts will at this point try to tell me that the projects have to prove their worth or not be "refunded" at the end of the year.

And this cynical grey mouse will roar with laughter because that's not how this game is played.

We're still not into the auditing concept but we're getting close. We're into Title VII--the bilingual act. It meant money and the chance to try something really new--like teaching kids in the only language they knew--innovations like that. After all, there had been a law in Texas that only English was to be used for instruction--even if the pupils didn't understand it. Being non-English speakers was their fault--or their parents fault--or their grandparents--certainly not the fault of the school.

Please get the full significance of all of this. We are now going to teach in Spanish as well as in English. Never mind that even those of us who were bilingual had had at most a few courses in which Spanish was the subject but the language of instruction was English. None of us knew anything about Spanish reading, except that it was simpler than English. If many of us felt guilty about speaking Spanish in public buildings supported by U.S. dollars, imagine how the establishment felt about the prospects of Mexicans chattering in Spanish all over the place. There you have the makings of something farther down the list than mere drama--it was more like TRAUMA.

People who didn't really know what had been going on were now going to try something on one else had done before and in another language--And they were going to be audited!! We all know what an auditor does--he comes and checks records of transactions and makes sure you aren't writing checks to yourself through your brother-in-law's hardware store and stuff like that.

A few of us know that if you hire someone to audit you, at least a little piece of the guy's in your pocket if he wants the contract renewed next year. But the federal auditors are more like bank examiner types, we thought. Buy <u>them</u> a drink and they'll really check those records.

So the first reaction from grantees was "Do we really need that money?" I talked to seven or eight project directors in preparing this presentation and all of them admitted feeling threatened by the audit concept. None retained those feelings--So something happened. I asked them if they knew of any project that had been terminated or that had lost any portion of its funds as a result of the audit process--or for any other reason. Not one has and Title VII is beginning its fifth year in July. But we didn't know that back in 1969 and '70.

Let's go back to those days--to the beginning. Enthusiasm was running high--the legislation was a victory for concerned educators in the Southwest, even if the final appropriation wasn't much more

than a few minutes of prime time on national television--seven million, was it? But we were grateful for that much.

As the projects got underway we soon discovered what we had overlooked in our enthusiasm that no one had been trained for the job descriptions we we e writing.

Project directors came mostly from the ranks of administrators, supervisors, or curriculum specialists--a few even from the classroom--maybe a junior high school Spanish teacher could qualify.

Evaluators were sometimes anyone who had written a master's thesis and knew how to say "statistician"--

Auditors were required to have 2 or 3 days training in OE sponsored workshops. Some were curriculum specialists in Universities--Some applied researchers--and some were college administrators or education professors.

The fourth key person, the Project Officer, based in Washington met qualifications unknown to me and they too came from the university--perhaps from the classroom, from curriculum or from administration. Of these 4 key figures only the project director--to my knowledge--consistently meets the requirement of being bilingual.

Given the uncharted wilderness and the variations of the composition of exploring teams that were possible you can see how it would be impossible for me to present a typical reaction to one aspect--the auditing process in this case.

Suppose that in one case the project director is a former principal, the evaluator a classroom teacher, the auditor a scientist type heavy in pure research and the project officer a conscientious bureaucrat. Or suppose that the mix is

project director--curriculum specialist in reading,

evaluator -- specialist in tests and measurement,

auditor --- Educational psychologist working in applied research,

project officer -- may know guidelines but has too many projects--to provide any input.

Imagine what the task of the auditor is in each case--there's no comparison.

Now add to all of this the scale of involvement on the part of the project officer from zero little or no input; to five: informed but kindly; to nine - overly concerned with every detail and the scale of attitudes that the auditors can have--from feeling that he should be a helpful member of the team to feeling that he is the educational equivalent of the bank examiner.

In the first team I cited, the combination of bank examiner and zealous project officer makes bad medicine. The project will survive but somebody is coming off the team, probably the auditor.

In the second mix I suggested there aren't likely to be serious problems--but still, the mix determines the kind of auditor that is needed.

These extreme cases, as well as all of the possible variations of factors, point up the need for recommendations from the field; Going back to 1970 knowing what we know now--we'd recommend

> First, if the auditing requirement is an earnest one--funding agency must first certify auditors, classify them by specialty, and assign them to projects based on need (background of staff).
>
> Second, for that to work well, the project officers must be given training and time to be able to function as technical advisors and have headquarters in the state agency or regional office rather than in Washington.
>
> Third, the granting of funds must be based on a combination of commitment and performance. Some projects will be reduced or discontinued while others may be increased or extended.

If those three recommendations are not to be followed then turn us loose. The qualifications of the evaluator and project director should determine what kind of auditor or technical assistant is needed. Bilingual Projects absolutely need outside help--we need help in setting up workable evaluation systems; we need help in improving communications within the project and with the rest of the community; and, we need someone to ask intelligent questions and to help us find the answers and then to make changes that are needed.

Project directors told their feelings about auditors and these are some of their comments

> We're glad we were forced to look closely at our evaluation procedure.

We want to prove that our successes are genuine--The auditing process can help.

If we get an incompetent auditor we want to know two things.

Who's auditing the auditor and
How fast can we replace this one?

Although we had misgivings at first we now know that an

Auditor can keep the project director and staff informed about other projects and provide geographical perspectives.

Auditor can provide services, such as data processing.

Auditor can provide consultant services on analyses of data.

Auditor can identify sources of information, especially for evaluator.

Auditor can serve as consultant in areas where local staff lacks expertise.

Auditor of Title VII should know "something" about language, reading instruction, and testing.

Auditor provides positive reinforcement.

Auditor can provide a viewpoint of the project that is distinct from that of the project staff.

All of these comments are from people who regard the auditor as a helper rather than a snooper. None of them suggest how an auditor can help forge the weakest link in the educational system, the school unit and school district administration.

Earlier I said that in reality, no one was accountable to anyone for anything. I think that it's because administrators don't receive program data and wouldn't know what to do if they got it.

Let's take a basic subject like reading. If we can't teach literacy successfully what are we good for? Yet not one superintendent or principal that I know can tell you anything about the rate of progress or achievement of any pupil or group of pupils in any of their schools.

Bilingual education gave us a fresh attack on this problem. The

two basic courses for non-English-speakers when they enter school at age 5 or 6 are

Oral English and Spanish reading

Both serve as indicators of success in school. After 4 years of experience we now know what progress and achievement to expect from classes. Over 5000 children have received instruction in these two courses since 1969 and both the rate of progress and the scores on interim tests have been documented.

It is possible, with that kind of track record, to provide the principal with charts on which to keep a current record of the results from classes in which those courses are taught. He doesn't have to know how to teach Spanish reading any more than the manager of a manufacturing company needs to know how to assemble, package, and market his product. But both the principal and the manager needs to receive data regularly from the people who do know how to do those things. And both need to have someone to verify the accuracy of the data gathering process as well as the facts themselves.

The manager of an industrial firm must know the significance of the proportions or ratios of various factors such as inventory, sales, and receivables.

The principal must know the rate of progress and achievement over certain material. He needs to know:

> How long did it take to learn the first 16 lessons in oral English?
>
> What were the scores on the interim test covering that material?
>
> If the progress is too rapid or too slow, compared to the norm, what is the reason?
>
> How long did it take to learn the first five sound-letter correspondences in Spanish
>
> Etc.

With this kind of information the principal can get help, transfer children, change teachers, etc.

With this kind of reporting system the auditor can serve in the role designed for him. We all look to him to verify the data that flows from the teacher to the principal to the superintendent.

Whether he serves as a friend of the project or as an untouchable inspector, the parents, the taxpayers, and the professional educators sorely need the services of an auditor with integrity who can tell us what is really happening in our schools.

THE IDENTIFICATION AND DISCUSSION OF ACTIVITIES AND COMPETENCIES NEEDED BY AN AUDIT TEAM TO SUCCESSFULLY AUDIT PROGRAMS

Bernard J. Cohen

This morning in the coffee shop I wrote a product objective which reads "80 percent of the seminar attendees will become aware of the necessity for observing the folding of the chair in order to be able to provide similar directions to their own classes as demonstrated by their ability at the workshop to provide a similar set of directions verbally". This product objective was submitted to an audit team consisting of Al Morin and Mark Greene, both of whom will make presentations later on in the workshop, for their criticism. Mark asked questions about plans for data analysis. How would I know when the 80% criterion reference was achieved? I told them that I would sample at least five volunteers from the seminar. Al questioned the sampling procedures in so far as the selection of workshop participants is concerned since it would be a biased sample. In other words, only those who think they can give you a set of directions will give you directions. Therefore if you do achieve 80 percent there is a bias there since five participants were not randomly selected to provide the directions. A related process objective was also prepared and simply stated that "Bernie Cohen will sit in the folding chair, ask attendees to observe the folding of the chair, will then fold the chair prior to requesting members of the audience to provide directions for him to do same, then have them criticize the relationship between the process and product objective, the degree to which the process objective could be observed, and then the data collection techniques".

After the audit team reviewed the process and product objectives, we then ask, what competencies are needed? Obviously, the first was the familiarity with chairs in general and specifically the folding variety. After we decided that a competency in chairs and understanding of chairs was required, we then decided that it was necessary for this audit team to understand the five facets of product and process objective and to be able to apply observation techniques and recording devices. In order to audit the process they would have had to be present at chairfolding operation and via checklist, videotape, or some other techniques, record what would pass in so far as the actual process objective and the data collection activities were concerned. Finally, they would have been able to recompute whatever descriptive statistics that were used to determine the effectiveness of the process in achieving the product objective. So even the simple act of folding

a chair in order to instill in a group of seminar participants a necessity for following directions and for following a process in order to develop a set of directions can be audited if the audit team is comprised of members who have the necessary competencies. We are not talking about the degrees that are needed, although in some cases in order to be competent in a certain area one would have to have a degree in a certain area. We are talking about capabilities rather than professional certifications.

In order to discuss needed audit competencies and the tasks in which audit teams involve themselves, I would like to make reference to several pages taken out of the sampling technique section of an audit contract and given to you as Exhibit A. I want to review these audit activities and discuss for each the required competency. You will receive more out of a discussion of audit tasks and competencies from an actual list for a specific program than from a simple listing of competencies.

The program involved is a Title III program under Section 306 requiring an evaluation and an audit. It was a reading program with primary focus on the recruiting and training of community or indigenous tutors. The program recruited tutors, trained them, and placed them in 75 different schools. They then monitored their progress and continued with supervision and the development of materials. The evaluators did pre- and post-testing on the children, and the staff development sessions under a comprehensive evaluation plan. Let us turn now to the several audit activities and discuss the competencies related to them. The reasons for doing this is that I think many people spend too much time discussing audit competencies in terms of data analysis and completely overlook the process-oriented audit tasks and those audit tasks which fall into a gray area between process and product. In other words, objectives that can be a process of one component but that same process is also a product of another component. For example, actual teacher performance in a classroom is a process for the instructural component but the teacher performance may also be a product of the staff development component.

The first seven audit tasks (1a thru 1g) relate to the baseline testing procedures. Let us now review these audit tasks related to the evaluator's baseline testing.

Audit task 1a is an observation of actual testing in all tutoring centers when achievement tests are administered. There are dates for these observations, taken from the evaluation design. Competencies related to this specific audit task call for somebody to have a background in diognostic reading examination or data collection. Since they were not using a standardized test, the term achievement test actually did not apply. At the time the audit plan was written, the test had not yet been selected. A diagnostic test, Gates-MacGinitie was selected. You can't observe the administration of this test

Exhibit A -- Section of Audit Plan Dealing With Sampling Techniques

Evaluation Procedures	Related On-Site Audit Activities
1. Baseline Testing	1. a. Observation of actual testing in both centers when achievement tests are administered (9/72 and 5/73) b. Interview students to determine their reaction to all facets of the testing (10/72 and 5/73) c. Attend meeting of teachers where topic of discussion will be the utilization of data for diagnostic and instructional purposes in order to determine the existence of evaluation feedback loops (11/9/73) d. Analysis of randomization procedures used to select sample for evaluation interviewing (11/9/73) e. Retabulation and analysis of <u>all</u> baseline data related to student processes <u>NOTE</u>: A project of this nature will most likely devote most of its evaluatory efforts to process areas during its first years evaluation. And, most of the administrative decisions will be process-oriented. Therefore, the auditors will be reviewing all process data rather than a sample of same. (11/30/72) f. Recomputing of all baseline statistics upon which administrative process decisions must be based (e.g. attendance data, student attitude data, data related to student participation in activities, meetings, etc.) (11/30/72)

Sampling Techniques (continued)

	g. Re-interviewing of 20 students selected at random in order to corroborate baseline data relate to the racial situation, student teacher interaction and other processes directly related to the alternative-styled objectives. Student interviewers from the New Haven Alternative School will be trained and brought to Pennsylvania to conduct most of the interviews in order that they be as valid as possible. (12/7/72 and 12/8/72)
2. Data Analysis	2. Auditors will examine the computer program for analyzing data (12/15/72).
3. Evaluation of Management	3. a. Auditors will examine time lines and compare to proof of completed tasks in order to validate evaluation team's assessment of management. (1/12/72)
	b. Attendance at management conducted meetings in order to observe management as another corroborative effort towards validating the management evaluation (12/8/72 and 1/12/73).
	c. Interviews of 5 teachers at each school in order to certify the findings presented in the evaluators staff survey related to management 2/16/72.
4. Evaluation of Curriculum	4. a. Observation of each regularly scheduled class at least two times during school year in order to validate the evaluation team's presentation regarding innovations and/or

Sampling Techniques (continued)

	alternative teaching approaches. Regular classes include those given throughout the year as oppossed to those scheduled on a "mini" basis. 11/30/72, 12/8/72, 1/12/73, 2/16/73, 3/22/72 and 5/7/72
	b. Interviews with each of the "regular" teachers in order to gather data related to the "alternatives" of their classes. NOTE: If this audit is to serve any purpose whatsoever, it must concern itself with, not only the traditional forms of data, but with data which will allow the audit team to certify that there was, in fact, a truly alternative system implemented (or was not). (1/12/73, 2/16/73, 5/7/73)
5. Evaluation of Instructional Process	5. a. Observation of classes in order to make a determination regarding the relationship between the data collected via evaluator's surveys and what is actually happening insofar as the teaching/learning processes are concerned. (all site visits).
6. Evaluation of Community Involvements	6. a. Telephone calls to 50% of the members of the operating board in order to corroborate statements made by the evaluators regarding their involvement. b. Attendance at 2 Operating Board meetings (2/16/73, 3/15/73)

Sampling Techniques (continued)

7. Evaluation of Staff Development	7. a. Attendance at three development workshops (date yet unknown) b. Survey staff regarding supervisory attempts at ongoing development. c. Observation of supervisory activities and classroom visits.
8. Post-testing	8. Observation of all post-testing.
9. Data Analysis	9. a. Rescoring of 5% of all QAP's used in analysis. b. Recomputation of 2 t-tests or chi squares, depending on which ever test of significance is used.
	Other visits made to continuously monitor processes such as "student as teacher" and other alternative processes in order to validate process evaluation.

without having some background in remedial reading. It is not the kind of test that provides a grade equivalent score for reading comprehension. It provides ten subscores for sub-areas such as ability to attack initial consonant blends, ability to read dipthongs, phonemic attack, lateral dominance or eye movement left to right, and is rather specific in terms of developmental reading. So the competency related to observation of this test was that somebody on the auditing team had to have a background in remedial reading. In other programs, competencies should also be specific to the area which is being tested. If there is testing for language dominance in a bilingual program, then there should be an observer on the audit team who has a background in language and linguistics. If testing self-concept via individual interview or a group test, somebody should observe that testing who has a background in data collection related to the affective domain. So one specific competency related to auditing this project is identified.

The second audit task called for interviewing 5 percent of students in order to determine reaction to the actual testing. This task was put in as part of the audit plan with dates because the project felt that the students in many instances would not respond favorably to testing, would think of it as an intrusion on their privacy, and would not cooperate. Not only was the testing observed but approximately 15 students were selected as auditors to interview regarding their attitudes to testing. We developed a questionnaire, sat down with them, and asked questions about the actual testing situation; (did they enjoy the testing? If not, why not? What do they feel the tests will be used for?) in order to try to get some understanding about the testing procedures and the degree to which they responded seriously to the test situation. Since an all black student body was involved in the program, we found that in order to get audit data that was more relevant to the actual program processes and the evaluation processes, there should be at least one black member of the audit team. The evaluation team happened to be all white Harvard types going into an all black school. We felt that this team of Harvardites coming in would cause if not dissension, at least an uneasiness. So we had black members of the audit team meet with students. We did find out that in order for them to get better response in their reading tests they did have to recruite black members on the evaluation team and to use them to collect this data. While that is not so much a competency, as it is, we'll call it whatever you want.

A third audit task related to the baseline testing called for two members of the audit team to attend a teachers meeting of teachers, where the topic of discussion would be the utilization of data for diagnostic and instructional purposes, in order to determine the existence or the extent to which the evaluation team provided feedback to the teachers. One of the program objectives called for the evaluators to provide immediate feedback from the diagnostic testing. Since there were 75 teachers in this program, it was not possible to meet them all within a week after the testing. The com-

petencies needed here would be the ability to sit in on a meeting and observe the interactions between the evaluators and the teachers in order to determine the degree to which feedback was provided from the diagnostic data bank. Now again you get into other areas that one might not call competencies, but the auditor who went to this meeting also had to understand the politics of evaluation. He had to understand that, in this case he could not be a threatening entity or the mere presence of an auditor could hurt the whole purpose of the meeting.

The fourth audit task related to baseline testing called for an analysis of the randomization procedures used to select the sample for evaluation interviewing. The evaluation team provided diagnostic reading scores for each of the students in the program. Then they randomly selected 40 percent of the students for further interviewing in order to secure some assessment of the program's ability to impact on the affective domain. They wanted also to collect some social indicators. The audit task became an analysis of the randomization procedures used to select the evaluator's interview sample. The competencies called for a member of the audit team to have a background in randomization processes and research design. The reason I stress these other areas is not to de-emphasize audit teams ability in the area of research design. Of course it happens just as much as the other audit tasks.

The fifth audit task related to baseline testing called for a retabulation and analysis of 5 percent of the student tests. This percent was not just picked out of a hat, but went along with the actual budget of the program. That is, what could be done in terms of the audit budget as far as retabulating, rescoring tests. Competencies here again called for a background in remedial reading in order that the auditors correctly interpret a test such as Gates - MacGinitie.

Sixth audit task called for the recomputing of any baseline statistics upon which administrative process decisions must be made. For example, collected baseline data relating to student attendance, student attitude, and social indicators. From these preliminary data points, tutoring schedules were being set up. Since this was just at the beginning of the school year, staff development sessions were also being set up. In other words, if they found out that a certain percentage of the students had low self-concept scores on their yardstick a staff development workshop in that area would be set up. Administrative decision-making was based on certain of the baseline data points. In order to determine that administrators had an opportunity to act upon a well formed data bank, recomputation was made any of the baseline statistics on which administrative decision-making was based.

Looking at the second evaluation task, a member of the audit team examined the computer program that the evaluators developed for analyzing and presenting their diagnostic data. As far as competency is concerned, a member of the audit team had to understand all phases of

that computer program development. It was necessary to understand ways in which the evaluator's computer team could use that data, and to make sure that they were communicating with teachers, the community advisory council, and the administrators.

Up to now, only auditing of baseline testing has been reviewed. Five or six "competencies" are already required and this is prior to any auditing or review of program processes. In the first few weeks of the audit work, there is a need for a computer specialist, communications specialists, social scientists, and an interracial audit team; an ability to observe the meeting between the evaluators and the teachers, and an ability to review the randomization and preliminary data analysis.

Let us go onto the next set of audit tasks and make them relevant to my topic by pointing out audit competencies. The next major evaluation task is called "evaluation of program management". This program placed heavy emphasis on program management. You can understand why when it is known that they had 75 participating teachers and 450 tutors. Program management was not only a necessity but a necessity for the program's success. To coordinate 450 tutors each of whom worked an average of three hours per week, 14 schools, 5 different cities, was important. The evaluation stressed management so this had to be reflected in the audit tasks. Some of the audit tasks related to the evaluation of management are not all in this exhibit because at that time the evaluator's management assessment plan was not complete. The audit tasks here called for the audit team to compare planned time lines to actual implementation of activities in order to prove completed tasks as validation of the evaluation team's management assessment. At this point, you get into the <u>role</u> of the auditor as a problem. Supposedly, there is a program management ergo there is a management evaluation. If there is a management evaluation, there is an audit of the management evaluation. In the case of three programs in the last three years, the audit of management evaluation identified problems existing in the management of a program that were not discussed in the actual evaluation report. This non-reporting in audit report in each of the three instances was done because it was felt the management evaluation was not as complete as it should be as demonstrated by the fact that the management evaluation did not discuss the following problems and then two or three of the problems were listed. Now, what happens when a project director gets an audit report of this nature? A first reaction is that is not the auditor's job. You are not supposed to evaluate me. Even if you are evaluating program management, any project director in this room will state that if you are evaluating program management you are evaluating me. Regardless of the fact that there are 20 management processes and four other administrators. His reaction is that it is not your job, rather it is the evaluator's job. If he didn't discuss certain management activities, either he felt that they were not important enough to discuss or he didn't have enough data from which to draw conclusions. A second reaction (if they don't

say you're fired) is that from now on they want draft reports. They want to know where you are going to be, what you are going to do. This can end up to be just a management show for the auditors. This issue has to be dealt with on a local level. What we do now is to discuss it beforehand. If we are going to audit the management evaluation, we say two things. One, we are going to verify evaluatory statements made by the program evaluation team regarding the strengths and weaknesses of program management. Two, we are going to determine whether or not that management evaluation was comprehensive enough to actually assess program management.

The first task is to examine the time lines in order to compare purpose to actual implementation of activities. That is a simple task. A member of the audit team attended management conducted staff meetings in order to observe management in action, to observe management as staff developer and planner, and to corroborate statements made by the program evaluator. One of many processes difficult to quantify is the degree to which management communicates with staff. Many of the programs will have management objectives in that area. The evaluator will be forced into writing statements that are difficult to support such as "At the weekly staff meetings the project director was able to give other administrators and teachers the feeling that they were a part of this program by allowing them to criticize program activities, management activities, and staff development activities". How does one audit that statement even if one of the objectives was that the staff members will feel that they are participating in a democratic management system? The only way to audit is by attending the meetings. The staff could be surveyed with a confidential survey but one would want to secure some on-site observation. What competency is required? Again, the auditor has to be able to sit and observe meetings without being a hostile witness, without presenting a threatening environment, without being someone who is going to curtail discussion. He is an outside observer who has managed to get involved to the degree that he is accepted but not to the degree where he becomes subjective. He should also know a great deal about supervision, staff development, and program management for this particular task.

Another of the tasks related to management evaluation called for a member of the audit team to interview five of the participating teachers at each school in order to certify the findings presented in the evaluator's staff survey related to management. The evaluation team sent a mail survey to the homes of the participating teachers and presented in their evalution report a series of judgments about program management based on data collected by this mailed survey. There is possibly a bias there, since somebody who feels very favorable towards program management is likely to fill out that survey. If somebody feels hostile towards program management they are also going to fill out that survey. It is difficult to prove that the two ends of the curve equal an average. It is impossible. So we

felt that it would be desirable to try an alternative data collection process. Five of the participating teachers at each school were randomly selected and the auditors met with them at their free time, (lunch time, before class and after class hours) and asked them similar questions but not questions that were exactly the same. To do so would cause them to react by saying "what's the matter, you lose the survey?", "didn't you believe what I said?". So questions were asked to get data from them on program management for the purpose of corroborating the process statement prosented by the evaluation team.

There were other audit tasks related to management that are not in the exhibit. As noted earlier, the evaluation design was re-written after the audit was submitted. Some other tasks related to the audit of program management called for the members of the audit team to lonk at certain of the processes such as teachers and tutors requesting materials of the project director. How long does it take to get them out to the field with 450 students and 75 tutors. Since Materials Management was a difficult task, it was looked at in order to corroborate the evaluator's assessment of these same processes. Competence is required related to management evaluation. No audit team should think it can go in and order the management evaluation unless members of the team, specifically those auditors who are going out to the field, have been in the same position and have proven themselves as either effective project director or as long term administrators of another variety such as building administrators.

The next set of audit tasks related to evaluation of curriculum. Curriculum development was emphasized since they were working with the 400 students and the staff refused to use any of the regular reading series. They wanted to develop the'r own set of curriculum materials specific to the needs of the elementary and junior high students in the geographical area, and more specifically to the students in their program. It was important enough for the evaluators to look at it and therefore it became a part of the audit task. Audit task 4a reads, "Members of the audit team will observe each regularly scheduled class at least two times during the school year in order to validate the evaluation team's presentation regarding the development of innovations and/or alternative teaching approaches". They had 5 workshops throughout the year and each workshop was repeated 6 times, once in each of the participating cities. The audit was to observe at least two of each session with dates presented for the auditor's observation. The purpose of the observation of this curriculum development sessions was to validate or corroborate the evaluation team's presentation regarding the development of innovations or alternative teaching approaches. In other words, the evaluators are going to present a comprehensive review of curriculum development activities. Something like 24 percent of project budget funds were spent on curriculum development and so it became important enough for the auditing to corroborate their statements.

Another audit task related to the curriculum development evaluation called for the audit team to interview each of the "regular" teachers in order to gather data related to the effectiveness of the tutors alternative approaches. Since the tutors took children out of classes, we felt that the classroom teachers were a good way to verify what the program people themselves said about the tutor's alternative approaches. It was rather complicated. Tutors were being trained by the program to use alternative approaches to remedial reading. The program had supervisors who were providing the tutors with these teaching techniques. It was the program supervisors who were feeding data to the evaluators regarding the effect of those techniques. As auditors, we took an alternative route and went to the regular classroom teachers and said "You know, what's happening out there in the corridor when your kid goes out and sits with that volunteer tutor, what do you think of the alternative teaching techniques?" The two primary audit tasks related to the development of curriculum were attendance at the curriculum workshops and interviewing with the regular classroom teachers regarding the development and implementation of innovative techniques. Observation was made of the tutors but that is a later audit task related to another objective. In so doing, we were able to collect our own data regarding the implementation of these techniques.

The fifth evaluation task called for an assessment of the actual instructional processes implemented by the tutors. An audit task was to observe 25 percent of the tutors randomly selected by the audit team at least two times during the school year. This was done in order to make a determination of the relationship between the data collected by the evaluator's survey and what was actually happening in so far as the implementation of teaching and learning processes are concerned. As for competencies, a member of the audit team not only had to be competent in remedial reading techniques but also in use of para-professionals as volunteers in this particular situation. Two members of the audit team throughout the school year observed 25 percent of the tutors twice each and after the session interviewing the tutor regarding the materials, methods, procedures, used. This task became verification of the most important process in the interim evaluation report which stressed the instructional processes. The evaluators had developed a tutor observation checklist with about 14 items that the evaluators were looking at when they observed the tutoring sessions. The audit used the same checklist in order to collect data so it could be compared to theirs, whether they used descriptive or inferential statistics. If the evaluators said 75 percent of the tutors used attention getting devices in order to get the student started in his remediation for the day and the audit team found out that they did not, then we brought this up in our interim audit report. One would have to have a competency in that area in order to make that statement. The observation of actual instructional processes becomes a key issue, especially if there is not enough money in an audit budget to do much more than observe

pre- and post-testing as is often the case. Hopefully, the auditor can reach project directors before they prepare budgets to impress upon them the fact that product evaluation alone doesn't tell you anything about the effectiveness of the program. If you want an auditor to look at a product, you should also have him involved in observing the program process.

Another activity of this program called for an evaluation of community involvement. The tutors were primarily community people trained to provide the remedial instruction. It was proposed that there would be a very active community advisory council. Due to the heavy emphasis on community involvement in this project, the evaluators were called upon to in concert with the community advisory council to develop a set of product and process objectives related to community involvement. The auditors were then required to audit the evaluation of community involvement and the actual community involvement activities.

Of the two audit tasks, one called for attendance at two of the operating board meetings. Since there were four operating board meetings throughout the year, the auditors were at 50 percent of the meetings. The second task called for the auditors to make telephone calls to 50 percent of the operating board members in order to corroborate statements made by the evaluators regarding the degree to which the community members were actually involved in determining program policy. Another approach was a simple survey which actually was a test but made it look like a survey of members of the community board which was distributed at one of the monthly board meetings. This survey related to the program objective which called for members of the evaluation team to train certain members of the operating board in evaluation techniques so that they could read and understand the evaluation reports. It was that the evaluation team come to an operating board meeting at the beginning of the year and give them an orientation to the evaluation activities. As for competencies, this called again for an interracial audit team. You can argue whether or not that is a competency, but it is a competency that we look for the audit team in general. This was primarily a black community council and we did not want to confront them with any barriers that might be inherent in an all white team. Other competencies called for a member of the audit team to understand staff development processes as they relate to the training of professionals. Now you can do away with all of these competencies if you want to say that needs assessments and recommendations are unimportant. All you really need is somebody who knows how to write a survey and tabulate numbers, and say 40 percent of the community representatives did or didn't understand and end it. But if you have an auditor and an evaluator who are competent in this specific area, they can then identify needs. Why did only 40 percent of the community representatives understand the stated objectives? What can be done to bring that up to 80 percent or 100 percent?

The last component to be evaluated was the staff development component. Staff development was an important part of this project using 75 tutors who had no experience in remedial reading prior to their involvement with this project. There were a series of objectives related to the tutors ability to identify reading problems, create an atmosphere conducive to learning, and to select materials from the library of materials for each session. The audit activities related to staff development objectives involved two members of the audit team attending at least three staff development workshops conducted for 25 tutors at a time in order to corroborate evaluatory statements regarding these workshops. Competencies called for again were ability to observe and record data, ability to understand staff development processes and specifically staff development of para-professionals, and the understanding of the reading techniques. Another audit task called for members of the audit team to survey staff members regarding supervisors attempts at ongoing staff development. One of the criticisms in the pre-audit report regarding this project was that they were using only workshops as their staff development activities. We were saying that if you have 75 tutors out there and there are objectives related to their performance and there are objectives related to supervision of their performance, couldn't those objectives related to supervision also be called staff development on an individual basis. Just as you tutor individually, the tutor supervisors can staff develop on an individual basis. Some objectives related to staff development on an individual basis were established. As auditors, we surveyed the staff with questions regarding the impact that they thought they had through this approach to staff development. Another task was the observation of supervisory activities in at least 25 classroom visits. this meant when members of the audit team accompanied the tutor supervisors on their rounds, they were looking at, among other things, the staff development that took place there again to corroborate any statements made about the staff development impact.

SELECTION, TRAINING, CERTIFICATION AND EMPLOYMENT OF EDUCATIONAL PROGRAM AUDITORS

W. E. Mellown Jr.

It is a privilege and an honor to have this opportunity to share with you some of my thoughts concerning the important matter of program auditing. The concept of Education Program Auditing (EPA) is relatively new. Our public is demanding that the educational agencies and those educators who are responsible for the operation of these agencies should be held responsible for the educational results of their children and their local educational agency (LEA). The EPA's "role is that of an independent observer and reporter. Included in his functions are such tasks as critiquing the evaluation design, making alternative instrumentation and design suggestions, assessing the extent to which the instructional materials and facilities are being used or prepared in accordance with the specifications set forth in theproject proposal, and verifying the results reported in the evaluation report."(1) It is a matter of quality control.

Selection

Those of us dealing with the concept of Education Program Auditing must realize it is perhaps impossible to find one person that has all the characteristics needed to execute the audit concept. This means we must constantly be alert for those educators that have characteristics needed for program auditing. The characteristics include a person that is able to work with people in such a way as to be able to criticize them without offending; a person who is knowledgeable in the area of educational evaluation; a person who is aware of the latest educational research and a person whose integrity is above reproach.

When we begin to look for a person that is able to criticize people without offending them, we realize why the critics of program auditing have oftentimes said that program audit tends to dehumanize the school system. We must, in fact, attempt to humanize the auditing process in order to assure that the individual needs of the educators and boys and girls are met more effectively as a result of auditing.

A person involved in EPA must have some knowledge of evaluation and what evaluators are attempting to accomplish. EPAs need not be

evaluation experts but should have a basic knowledge of the evaluation process and should be able to determine what test scores and other testing information means to the given LEA. Most well-informed educators today possess this characteristic. Oftentimes in the selection process for program auditors, we attempt to select persons that have a vast knowledge in the area of evaluation. These persons may not necessarily be the best equipped people to become EPAs. It is my personal opinion that administrators and supervisors with a good working knowledge of educational evaluation are better trained than persons who may have specialized in evaluation. Let me emphasize that it is important to have a basic knowledge of the evaluation process.

A well-qualified EPA must be a well-read person in the area of education; that is, an EPA must be knowledgeable of the latest findings and happenings in the field of education. He must be prepared to accept the findings and happenings that are changing and must be aware of the kinds of changes that are occuring throughout the United States.

If the EPA concept is to obtain the statue that those of us who advocate EPA feel it should obtain, the EPA must be a person whose integrity cannot be questioned by the critics of the concepts. The EPA must constantly resist the temptation to become a project consultant and to give the project staff directions. Once this is done the auditor, in effect, is auditing his own recommendations. The auditor must be a person who is willing to give the answer he feels is right regardless of the characteristics.

The LEA should keep in mind that the EPA should be a person who possesses knowledge of management techniques. This is important because of the involvement in the EPA process itself as well as the EPA's review of the LEA's evaluation management procedures.

While it is difficult to find one individual with all the above characteristics, it is important to find a person with as many of these as possible. LEAs must exercise caution in the selection of EPAs who will not cause those people reviewing the EPA's report to question the integrity of the LEA because of the person selected. This simply means that caution should be exercised in employing persons that might cause someone to question the auditor's report because of his relationship to the LEA. The auditor should never be involved in any of the program aspects of the project he is auditing.

Training

If the EPA concept is to obtain national recognition as a management concept that can be relied upon, EPAs must be trained and skilled in the tools of auditing. The training of program auditors is one of the areas in which the State Education Agency (SEA) must

exercise its leadership responsibility. If the program auditing concept is going to improve the educational results, the auditor must be trained in such skills as educational research, evaluation, management techniques, and adequate reporting skills. To accomplish training in the areas mentioned above, the SEA should organize training sessions to help the auditor acquire these skills.

In the area of research the SEA should develop conferences that will help auditors understand the techniques and skills of educational research. This need not be a detailed indepth study of the kind of research that might be conducted by a university or others interested in research perse but should be practical research techniques which will take into account sampling processes and other skills that would allow the auditor to sample the evaluation conducted by the LEA.

In training prospective auditors, perhaps the most important area concerned is evaluation. The auditor is to ascertain the effectiveness of the LEA evaluation. If he is to make this kind of determination, he must be knowledgeable in the area of evaluation and must be able to determine if the LEA evaluator has done an effective job. Training sessions should devote a large part of the time allotted toward training the EPAs to know an effective evaluation and what it consists of.

The EPAs are called on to check the effectiveness of the management techniques used by the LEA. It is important that training be provided in this area in order to assure that the EPA has proper competencies. It is also important that the auditor himself have effective management techniques in order to execute the audit function as rapidly and as efficiently as possible.

We have noted that one of the greatest areas of weakness in training of program auditors is the reporting the auditors are expected to do. EPAs should be given a detailed explanationof the reporting skills he will be expected to use. It has been noted that the most effective way to accomplish this task is by giving prospective EPAs examples of problems that will be encountered at the LEA level and asking them to complete the reporting they would make as a part of the audit report.

The training of EPAs should not be considered to be a one-shot proposition. It should be an ongoing process that is spread over a period of years with auditors receiving continuous training sessions. The most effective training sessions can often be held after the EPAs have been exposed to the problems they will encounter at the local level.

Certification

Certification of program auditors is one of the most important aspects of the state's responsibility toward the EPA process. The success of EPAs improving the educational evaluation and reporting at

the LEA is dependent upon the machinery that is established at the state level. If persons who do not possess the skills required are permitted to perform functions of a program auditor, the EPA concept will be doubtful in the future. The state must ascertain some way to certify auditors in such a way as to assure that competencies and skills of the auditor are maintained. The Education Program Audit Handbook by Jackson Stenner and William Webster recommends that the state establish an EPA certification board. This board will have the authority to ussue certification for auditors and the SEA should have the authority to maintain that persons not certified my not serve as program auditors. Certification should be based upon training, experience and competencies displayed in the process of auditing. The Alabama State Department of Education is currently certifying auditors. (See Appendix No. 1). The first year's certification was based upon attendance at a training session. The second year's certification was based upon a training session plus competencies exhibited in the field. Persons who were not certified by the SEA in Alabama are not allowed to conduct audits of programs controlled by the SDE.

Auditors are certified on an individual basis and in no cases are consultant firms issued certification. Individuals within the firm may secure certification if they have been properly trained and if they have exhibited competencies after working in Alabama for one year. The determination of the competencies an auditor has is determed by the Federal Programs Section of the State Department of Education working with and through the other certified auditors in the State. The idea here is that the auditors themselves should have a part in determining certification standards just as attorneys determine licensing for the law profession. The Alabama State Department of Education has experienced some difficulty in maintaining this standard but has had good support of the administration and has been able to maintain that in every case where auditors are auditing programs funded through the SDE they must be certified by the Department of Education.

In many instances the LEA will find that in order to get the competencies it desires it will be necessary to employ a team of auditors. In such instances it may not be necessary that every member of the team be a certified auditor but it should be clear that the chief of the team should be a certified auditor and should be held responsible for the work of every member of the team. In other words, if the team does not do an effective job, the chief of the team my not be certified in future years.

Employment

The LEA should select the auditors from among those on the certified list of auditors. This certification process will help to assure that the auditors themselves will be accountable for their actions and should

make it much easier for the LEA to choose a person or team capable of handling the responsibilities connected with the duties of the EPA.

The employment of EPAs should be left to the discretion of the LEA with the approval of the SEA or other funding agency. The LEA, in employing auditors, should use discretion to employ persons whose integrity cannot be questioned. If the EPA is to be effective, he must be a person the local board, SEA and all other involved parties can depend upon without question. This means that an EPA cannot be employed if he:

> "Provided assistance in designing the project.
>
> Provided major assistance in drawing up the evaluation design for the project (the reader will recall that one of the auditor's functions is to provide suggestions relative to alternative evaluation strategies and/or measurement instruments). This is quite different from actually drawing up the evaluation design.
>
> Had any part in planning the project.
>
> Had any part in implementing the project.
>
> Had any part in preparing or providing instructional materials for the project.
>
> Had any part in managing the project.
>
> Provided any assistance in and received reimbursement for the evaluation of the project."(2)

The EPA who is selected should meet immediately with the project evaluator and project coordinator to discuss the evaluation design and management porcedures. This type of meeting should be held frequently. The auditor's reports and findings should not in most cases be discussed with the project director and evaluator concurrently. If, in the opinion of the auditor, he needs to discuss a matter with one or the other of the two he should not hesitate to do so. This type communication should help alleviate many of the problems that may be otherwise encountered by the auditor as well as the project staff.

It is important that all expectations of the auditor be included in a written contract. This contract should spell out the number of visits expected, the number and type of reports expected, cost of clerical help, travel and per diem and honorarium. It is important that the written contract be entered into before the auditor begins any work at the local level so there will be no misunderstanding about what is expected and how much the auditor will be paid for his services. (See Appendix No. 2).

It is imperative in the beginning that the EPA establish a line of communication with the project staff that will allow for the most efficient way of reviewing the progress of the project. It is important to remember that the EPA must be an independent observer of the evaluation and management process and that his role is not that of a decision-maker. If the auditor becomes involved in any of the procedural activities or as a decision-maker he, in effect, nulifies his effectiveness as an auditor since he would be in a position of auditing his own recommendations.

It is possible that it will be extremely difficult to locate an individual with the necessary experience in auditing. In these cases, as indicated above, the LEA should look for a team of auditors that could accomplish the objectives of the audit concept. The LEA should always keep in mind that the chief of the team should be fully certified by the SDE or other certifying agency.

In many cases LEAs have had success in securing the services of consultative firms to perform the EPA function. It is important to remember in these cases that the individual who is to perform the auditing should be certified. Firms, no matter how competent, should never be certified.

Before employing an auditor, the LEA should seriously consider geographic proximity of the auditor. Funds are always limited and time is always of the essence. This makes it extremely important that the LEA secure auditors who are relatively close and do not have to spend most of the time they have for auditing traveling to and from the LEA.

The key to success of the audit concept lies in the areas of selection, training, certification and employment of the auditor. If the auditor has been selected carefully, trained properly, and certified to be accountable for his actions, the audit concept has every chance of being successful and should add to the chances of success of the LEA project.

While there are many authorities and references that may be used by persons interested in selection, training, certification and employment of Education Program Auditors, listed below are a few that have proven to be successful in my work in the auditing process:

1. A Manual for Implementation of Accountability in the Design and Management of Educational Projects, Volumes I and II, Prepared for the Bureau of Elementary and Secondary Education, U.S. Office of Education, D.H.E.W. by Institute for Development of Educational Auditing.

2. Accountability: Policies & Procedures, Learner-Centered Management Support Systems, Volume III: Personnel, by Leon Lessinger, Dale Parnell and Roger Kaufman.

3. Educational Program Audit Handbook, Preliminary Edition Developed for Alabama State Department of Education Workshop, May 11 & 12, 1971, by A. Jackson Stenner and William J. Webster.

4. Many publications by Cooperative Accountability Project, Denver, Colorado, 1972, have been helpful. This project is funded by the U.S. Office of Education, Title V, ESEA.

5. Education Program Audit Handbook, 1971, by A. Jackson Stenner and William J. Webster, Institute for Development of Educational Auditing.

FOOTNOTES

[1] Educational Program Audit Handbook, A. Jackson Stenner and William J. Webster, pp. 26 and 27.

[2] Ibid

Education Program Auditor Certificate

State of Alabama

This is to Certify that

HAS SATISFIED THE REQUIREMENTS AS PRESCRIBED BY THE ALABAMA STATE DEPARTMENT OF EDUCATION FOR ESEA PROGRAM AUDITOR AND IS THEREFORE AWARDED THIS CERTIFICATE WHICH ENTITLES HIM TO SERVE AS AN EDUCATION PROGRAM AUDITOR IN THE SCHOOLS OF ALABAMA PARTICIPATING IN THE PROGRAM.

IN TESTIMONY WHEREOF and by the authority invested in us, we have affixed our signatures this, the_____day of_____, 19_____, State of Alabama, Montgomery, Alabama.

_____
STATE SUPERINTENDENT OF EDUCATION

_____
DIRECTOR, ADMINISTRATION AND FINANCE

Appendix No. 1

V-9

APPENDIX NO. 2

EDUCATION PROGRAM AUDIT CONTRACT

taken from

EDUCATIONAL PROGRAM AUDIT HANDBOOK

Preliminary Edition Developed for Alabama
State Department of Education Workshop

May 11, 12, 1971

by
A. Jackson Stenner
William J. Webster

Institute for Development of Educational Auditing

EDUCATIONAL PROGRAM AUDIT CONTRACT
BETWEEN
PERFORMANCE PUBLIC SCHOOL DISTRICT
AND
QUALITY ASSURANCE CORPORATION
FOR THE PROJECT ENTITLED
"PRIMARY READING MASTERY"

WHEREAS, the Performance Public School District, hereafter referred to as District, desires to have Quality Assurance Corporation, hereafter referred to as the Auditor, to develop and implement an audit plan which will enable the District to certify accurately to the quality of the evaluation and management procedures and to the accuracy of the evaluation results for the above mentioned projects.

Whenever used in this agreement, the term "audit" shall mean an educational program audit.

Section I: General Provisions

1. The Auditor agrees to perform all services in a good and workmanlike manner as specified in this document.

2. The auditor's work under this contract shall not constrain the Performance Public School District in determining the District's role in research and evaluation or in management of the "Primary Reading Mastery" project.

3. The Auditor agrees to provide all professional and secretarial services. Performance Public School District will provide office space, furniture, supplies, and materials needed in carrying out the scope of work for developing the audit plan. The Auditor shall use the office space provided only for the performance of its obligations under this agreement.

4. The Auditor agrees to submit written interim reports of progress along with appropriate documents by 3:00 P.M. on each of the following dates:... These reports shall include an itemized statement of costs to that date, based upon the breakdown of tasks outlined below, as well as a summary of the Auditor's resources utilized. The total of all costs for the Audit shall not exceed the sum of , as authorized by the Board of Education.

5. This contract shall commence August, 1971, and cover the period through June, 1971.

Section II: Scope of Work

The Auditor will review and, where appropriate, certify the following:

1. Complete project proposal
2. Pertinent project correspondence
3. Evaluation design
4. baseline data
5. Measurement instruments
6. Management plan
7. Process evaluation data
8. Process evaluation reports
9. Final evaluation report

The Auditor will establish the appropriateness of the evaluation and management plans through the use of the following approaches:

1. Review of proposed measurement instruments to determine feasibility, reliability, and validity.

2. Monitor test administration procedures.

3. Sample and rescore measurement instruments.

4. Monitor data collection procedures.

5. Monitor program support components, e.g., community advisory council meeting or in-service session.

6. Sample and re-calculate data analysis procedures.

The Auditor shall professionally and completely perform the scope of work as embodied in this agreement, including the prompt completion of the reports and examinations required under the foregoing and following sections, procedures, and schedules.

1. Preliminary Audit Report: The Auditor shall submit to the project director not later than September, 1971, a preliminary audit report including (a) a critique of the evaluation design and (b) an audit plan.

2. On-site visits: The Auditor will conduct a minimum of on-site visits for the purpose of completing the audit examination. The Auditor agrees to request authorization for audit visits three (3) working days prior to requested date.

3. Interim Progress Reports: The Auditor shall submit on the aforementioned dates interim reports, including comments and recommendations relative to project administration and evaluation.

4. Final Audit Report: The Auditor will submit a final audit report to the Performance School Board no later than June , 197 .

Section III: Mutual Considerations

1. The Auditor agrees to hold in strictest confidence any and all information obtained in the conduct of this audit examination. The Auditor shall give advance notice to and shall seek and obtain the approval of the Performance School Board prior to publishing, permitting to be published, or distributing for public consumption any information, oral or written, concerning the objectives, results, or conclusions made pursuant to the performance of this contract, except that all parties to this contract may publicly release or describe this agreement or any portion therof.

2. The Auditor shall certify to the Performance Public School District that all Auditor personnel of every category shall be personally and professionally qualified for the assignment to be undertaken. The Auditor further agrees to adhere to the policies and procedures of state certification requirements with respect to its employees and the work performed under this agreement.

3. The Performance Public School District, through any authorized representatives, has the right, at all reasonable times, to inspect or evaluate otherwise the work performed or being performed hereunder. All inspections and evaluations shall be performed in such a manner as will not unduly interfere with the Auditor's performance under this Contract.

4. In connection with the performance of this contract, the Auditor agrees not to discriminate against any person on the grounds of race, color, religion, sex, or national origin.

5. The Auditor agrees to utilize the number of the contract on all correspondence, communications, reports, vouchers, and such other data concerning the contract as delivered hereunder.

6. The composition, workmanship, printing or reproduction, and substantive content of all studies, reports, evaluations, charts, graphs, tables, and other data to be furnished under this contract, shall strictly conform to the generally accepted quality standards of the Auditing profession and shall be suitable for dissemination and use without substantial revision by the Performance Public School District.

7. The Auditor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding of commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Auditor for the purpose of securing business. For breach or violation of this warranty, Performance Public School District shall have the right to annul this contract without liability or, at its discretion, to deduct from the contract price or consideration or to recover otherwise the full amount of such commission, percentage, brokerage, or contingent fee.

8. Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract, which is not disposed of by agreement, shall be decided by the Superintendent Performance Public Schools, who shall reduce his decision to writing and furnish a copy thereof to the Auditor. The decision of the Superintendent or of his duly authorized representative for the determination of such appeal shall be final and conclusive, unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not to have been supported by substantial evidence. In connection with any appeal proceeding under this clause, the auditor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Auditor shall proceed diligently with the performance of the contract in accordance with the requirements set forth herein. If such performance results in additional costs to the Auditor and if such decision is later reversed or modified, the Auditor shall be entitled to additional quantum merit compensation for such performance.

9. The Auditor shall not be in default by reason of any failure in performance of this contract in accordance with its terms if such failure arises out of causes beyond the control and without the fault or negligence of the Auditor. Such causes may include, but are not restricted to: acts of God or of the public enemy; acts of the Government, in either its sovereign or contractual capacity; fires; floods; epidemics; riots; quarantine restrictions; strikes; freight embargoes; and unusually severe weather. However, in every case, the failure to perform must be beyond the control and without the fault or negligence of the Auditor

10. The terms of this contract may not be modified, except by mutual written agreement between the Performance Public School District and the Auditor. This agreement shall be interpreted according to the laws of the state. The title and subheadings appearing in this Agreement are not a part thereof and neither the subheadings nor the sequence of the paragraphs may be used in its interpretation.

TERMINATION OF CONTRACT

Notwithstanding any other provision of this contract, Performance Public School District shall at any time during the period of this contract have the right to terminate this contract and all rights hereunder by sending to the Auditor, by registered mail, notice of the date of termination of the contract, such notice to be sent ten (10) days before said date of termination. Thereupon all further rights to compensation of every type shall cease. For any work in progress which has not been completed at such termination, the Auditor may be paid the reasonable value of its services for which it has not yet been paid.

Executed at City State _____

ATTEST:

BY:_____

PERFORMANCE PUBLIC SCHOOL DISTRICT

BY:_____

QUALITY ASSURANCE CORPORATION

BY:_____

EVALUATION AND THE ACCOMPLISHMENT AUDIT: TOWARD A UNIFYING CONSTRUCT

A. Jackson Stenner

Four years ago in the last hours of Leon Lessinger's tenure as U.S. Associate Commissioner of Education, a concept was born which offered hope as an aid toward realizing the much acclaimed notion of accountability. Borrowing a bit from the business community the Independent Accomplishment Audit was created and mandated on ESEA Title VII and VIII projects. [The Independent Accomplishment Audit has also been termed The Educational Program Audit (EPA), however, because the term accomplishment audit better describes the intent of the concept it will be used throughout this paper.] Conceptually, the accomplishment audit was deceptively simple:

> The term auditor mean literally "one who hears" and dates back to the days when public accounts were accepted and approved on the basis of hearing the accounts read. Thus, the original audit examinations of fiscal accounts involved merely listening to a reading of the accounts and transactions. The audit function of today is more sophisticated and provides what is commonly labeled an attest function for the financial community. In this sense, the educational program audit (EPA) concept is closely analogous to the fiscal audit concept, in that the EPA attests to the quality and accuracy of the evaluation process of the local school system, thereby providing the stockholders and consumers (public) of the educational process with reliable information upon which they can base their decisions regarding support of the educational enterprise.(1)

The analogy between the fiscal audit and the accomplishment audit becomes tenuous upon closer scrutiny. Both concepts rely heavily on the attest function, however, attestation requires a "standard" without which the function cannot be performed. In the fiscal accounting world there exists a generally accepted set of accounting principles which provide the fiscal auditor with the standard against which his comparisons can be made. Unfortunately, educational evaluation and educational program management possess no generally accepted principles or practices. This single deficiency represents the most serious threat to the continued growth of the accomplishment audit. Until agreement is reached on what constitutes quality evaluation any attempt at "auditing" a program must suffer from this lack of definition.

Operationally, the accomplishment audit must overcome an issue closely dependent on the conceptual difficulties mentioned above. This issue relates to the distinction between the technical assistance role and the certification role. Several attempts have been made to fuse these roles into a workable model, however, I would suggest that these roles must remain independent and future attempts at integrating the roles will weaken the audit concept. The technical assistance role can be viewed as the auditor offering rather oblique guidance and expertise toward the improvement of the evlauation effort, while the certification role is a totally independent judgment regarding the integrity of the evaluation process and the accuracy of the evaluation results. Over the last two years the certification role has been over-emphasized and the technical assistance role has been neglected. It is a rare educational program that can truly benefit from an independent certification, likewise it is a rare program that cannot benefit from expert technical assistance. The number of social action projects for which the certification function (attest function) is valuable is limited to those programs in which the integrity of the evaluation results will be questioned and thus the impact of the results minimized. Programs which might fall in this category include a highly visible drug abuse program or a district wide reading program in which the school by school reading achievement scores are to be published in the newspaper. However, the typical state and federally funded project does not require a certification function.

Morin (2) describes the auditors' roles as follows:

> Simply stated, the role of the program auditor has been developed to monitor the activities of the program evaluation team and to facilitate performance quality control through the evaluation process. If the audit is done well, the evaluation process will be proper and management can function appropriately.

Herein lies a major problem for the practicing accomplishment auditor. The statement "If the audit is done well, the evaluation process will be proper..." reflects the misconception that there is a "proper" way to conduct an evaluation. The next section presents seven evaluation models now in use and highlights the fact that no generally applicable criterion exists for judging the adequacy of a program evaluation.

Contemporary Evaluation Methodologies

The proliferation of "evaluation models" during the past five years is an indication of the interest and importance being attached to program evaluation. Essentially, the models presented in the literature represent how evaluation should look ideally or theoretically, although some of the models have benefited from real world experiences.

Most of the evaluation models attempt to describe and explain the components of evaluation and their interrelationships; however, models are analogies and, as such, incorporate some elements which are inconsonant with the real world. The proliferation of evaluation models poses an interesting dilemma for the auditor responsible for performing an accomplishment audit. Should the auditor judge the quality of the evaluation effort according to his own conception of evaluation, or should he use the evaluation model proposed by the evaluation team. The problem will become more apparent as we consider the various models now in vogue.

Formative-Summative Evaluation - The formative-summative conception was suggested by Scriven(3) and has since become a standard reference. Of the seven models presented, the formative-summative conception least approximates a comprehensive model, in that it does not attempt to encompass all evaluation activities. Rather, Scriven has differentiated two roles for evaluation: formative and summative. This differentiation was developed in the context of curriculum development; however, its application is useful throughout most aspects of program evaluation.

Formative evaluation is concerned with program improvement. The evaluator constantly monitors the development and implementation of the program, and information derived from this monitoring process is fed back to the managers and is used to modify and improve the program. Scriven believes that different individuals should perform each of these roles. He states:

> ...The formative evaluators should, if at all possible, be sharply distinguished from the summative evaluators, with whom they may certainly work in developing an acceptable summative evaluation schema, but the formative evaluators should ideally exclude themselves from the role of judge in the summative evaluation. If this distinction between formative and summative evaluation personnel is made, it becomes possible to retain the advantages of eventual objective professional evaluation without the risks of disrupting the team spirit during development.(4)

CIPP Model - CIPP is an acronym for the four types of evaluation delineated in the model: context, input, process, and product. The most current reference for the CIPP model is "Educational Evaluation and Decision Making", written by the Phi Delta Kappa National Study Committee on Evaluation(5). The Study Committee defines evaluation as "the process of delineating, obtaining, and providing useful information for judging decision alternatives".

The CIPP model provides a comprehensive theoretical basis for viewing the evaluation process. The four basic kinds of evaluation are defined by the Study Committee as follows:

Context Evaluation - Specifically, it defines the relevant environment; describes the desired and actual conditions pertaining to that environment; identifies unmet needs and unused opportunities; and diagnoses the problems that prevent needs from being met and opportunities from being used.

Input Evaluation - The end product of input evaluation is an analysis of one or more procedural designs in terms of potential costs and benefits. Specifically, alternative designs are assessed concerning staffing time and budget requirements; potential procedural barriers, the consequences of not overcoming these barriers, and the possibilities and costs of overcoming them; relevance of the designs to program objectives; and overall potential of the design to meet the objectives.

Process Evaluation - Process evaluation has three main objectives: the first is to detect or predict defects in the procedural design or its implementation during the implementation stages; the second is to provide information for programmed decisions; and the third is to maintain a record of the procedure as it occurs.

Product Evaluation - Product evaluation includes devising operational definitions of objectives; measuring criteria associated with the objectives of the activity; comparing these measurements with predetermined absolute or relative standards; and making rational interpretations of the outcomes using the recorded context, input, and process information.

In summary, "context evaluation serves planning decisions to determine objectives; input evaluation serves structuring decisions to determine project designs; process evaluation serves implementing decisions to control project operations; and product evaluation serves recycling decisions to judge and react to project attainments"(6).

Discrepancy Model - The discrepancy evaluation model was developed by Provus during his tenure as Director of Evaluation in the Pittsburgh Public School System. The most current reference is a book by Provus entitled Discrepancy Evaluation(7). Provus defines evaluation as "the process of (1) defining program standards; (2) determining whether a discrepancy exists between some aspect of program performance and the standards governing that aspect of the program; and (3) using discrepancy information either to change performance or to change program standards." The Discrepancy Evaluation Model involves five developmental stages and three major content categories. Figure 1 illustrates these relationships.

Stages	Content
	Input Process Output
1. Design	Design Adequacy
2. Installation	Installation Fidelity
3. Process	Process Adjustment
4. Product	Product Assessment
5. Program	Cost-Benefit Analysis

Figure 1 - Outline of Provus Discrepancy Model

UCLA-CSE Model - The UCLA model is being developed by Alkin, Fenstermacher, Klein, Rosenstein, and Skager at the Center for the Study of Evaluation(8). The current model defines educational evaluation as "the process of determining the kinds of decisions that have to be made; selecting, collecting, and analyzing information needed in making these decisions; and then reporting this information to appropriate decision makers." Much like the CIPP model, the UCLA-CSE model focuses on the decision making process.

This model concentrates on four types of decisions: (1) decision to select goal areas to be attacked; (2) decision to select a program; (3) decision to modify the program; and (4) decision to certify the program. Five phases of evaluation are implemented in order that the above four decisions can be made rationally.

Phase 1: Needs Assessment - This phase includes stating potential educational goals or objectives (preferably in terms of student behaviors), prioritizing the objectives, and assessing the degree to which the existing educational program meets the objectives. The needs assessment data provides an indication of which deficiencies are most critical.

Phase 2: Program Planning - This phase of evaluation is geared toward answering this question: "Now that we know what and where the need exists, what program should be initiated or what program should be modified to alleviate this need?" A major consideration in program planning is the allocation of resources. The major product of this phase is a written document which outlines the problem and the strategy to be mobilized to meet that problem. It is during this phase that the evaluator provides input regarding evaluation requirements and begins building the evaluation design for subsequent phases.

Phase 3: Implementation Evaluation - The implementation evaluation phase concentrates on determining to what extent the start-up activities are initiated according to plan. Typical implementation questions for which evaluation information is needed might be: "Were the major project milestones met in the first three

months of operation?" and "If substantial time slippage occurred, what impact might these delays have had on the project?"

Phase 4: Progress Evaluation - This phase focuses on determining the extent to which the program is moving successfully toward meeting its objectives. Of interest in progress evaluation is whether the program plan is satisfactory in alleviating identified needs. Emphasis on progress evaluation minimizes the possibility of going through an entire year of the project before finding out whether the program was successful. The key elements of this phase are identification, feedback, and correction or modification.

Phase 5: Outcome Evlauation - This phase leads to a final judgement as to the total effectiveness of the program. Phase 5 attempts to answer such questions as: "Should the program be continued next year?" and "Can the results be generalized to other similar populations?"

Hammond-EPIC Model - The Hammond-EPIC model was developed under a Title III grant to the EPIC Evaluation Center in Tucson, Arizona. The most current reference is "A Scheme for Evaluation and an Organizational Structure of Variables"(9). The original formulation of this model was the work of Robert L. Hammond(10).

The Hammond-EPIC model has four phases and incorporates a framework (see Figure 2) composed of three major sets of variables or dimensions: instructional, behavioral, and institutional.

The four phases of the Hammond-EPIC Model are Planning, Implementation, Product, and Recycling. These phases are similar in many ways to previous stages or phases presented for other models.

Countenance Evaluation Model - The countenance evaluation model was suggested by Stake(11) in a landmark paper which has subsequently become the basis for much of the current thinking in educational evaluation. Stake views the evaluator's role as encompassing description and judgement. He states:

> The countenance of evaluation beheld by the educator is not the same one beheld by the specialist in evaluation. The specialist sees himself as the "describer", one who describes aptitudes and environments and accomplishments. The teacher and school administrator, on the other hand, expect an evaluator to grade something or someone as to merit. Moreover, they expect that he will judge things against external standards, on criteria perhaps little related to the local school's resources and goals.
>
> Neither sees evaluation broadly enough. Both description and judgement are essential...in fact, they are the two basic acts of evaluation.(12)

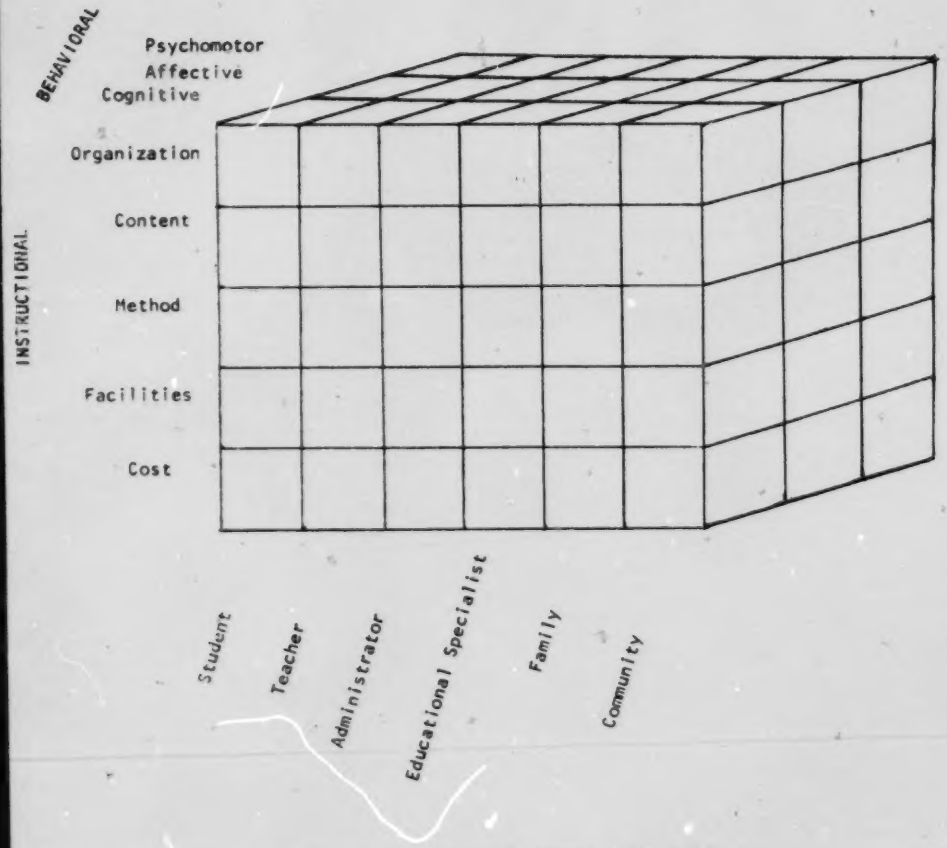


Figure 2 - Outline of Hammond-EPIC Model

Stake differentiates between three types of evaluation data: antecedent, transaction, and outcome. Antecedent data refers to conditions existing prior to program implementation, such as pupil characteristics, staff characteristics, community attitude, etc. Transactions are the program processes and procedures, while outcomes are the products of the program. Transactions are of a dynamic nature, while antecedents and outcomes are relatively static.

In addition to these three concepts, Stake differentiates between intents, observations, standards, and judgements. Stake sees intents as being synonomous with goals and objectives. Observations are the surroundings, events, and consequences which are informally or formally measured by the evaluator. The standards are the aspirations and benchmarks of performance for the program. Judgement entails a decision as to whether the standards have been met; the judging element is introduced in the process of deciding which standards are appropriate.

Information Based Evaluation - The most current reference an information based evaluation (IBE) is "An Overview of Information Based Evaluation: A Design Procedure."(13) In objectives based evaluation, the reference points are the program objectives. In information based evaluation the reference points become the information users for the program and the information domains (needs). Capitalizing on these two reference points, a technique called domain analysis is used to define and focus the direction of the evaluation.

Information based evaluation should not be considered as "objective free" evaluation. Information based evaluation recognizes the importance of program objectives, but only to the extent to which feedback on the objectives is considered important to information users. The overriding considerations is the type of questions about which relevant individuals desire answers. Priorities are established in both the information domain category (e.g., student cognitive growth) and the information user category (e.g., local superintendent) and the evaluation resources are expended to meet these identified priorities. An additional check on the adequacy of evaluation information is the extent to which the information leads to action. If no relationship exists between information and action, then the adequacy and/or quality of the evaluation efforts is in doubt.(14)

Several communalities are evident from a review of these seven models. First, there is a heavy emphasis on relating evaluation to decision making. Second, each model is closely related to the basic input - process - product trichotomy. Thirdly, each model, although to varying degrees, divorces itself (obsessionally in some cases) from the research model. Perhaps the greatest common weakness is the development of stages or phases without an explicit concern for the relationships between these stages and phases. One product of this neglect has been an artificial process - product dichotomy that has

contributed substantially to the inadequacy of many current evaluation efforts. What is needed, in addition to information about processes and information about products, is a "new" concern for process - product evaluation which plans for and addresses the relationships between transactions and outcomes.

It should be apparent that the way an evaluation is conceived has considerable impact on the products of the effort. For example, an objective based evaluation will be different from a basic research oriented evaluation and both of these will differ from an information based evaluation. These differences pose enumerable problems for an audit team in that the adequacy of an evaluation can be judged from such a variety of positions, a generally accepted standard of adequacy is absent.

A Unifying Construct

How does an audit team judge the adequacy of an evaluation? What criteria should be used? The universal criterion for assessing the quality of an evaluation and subsequent evaluation reports is the utility of the information provided. This criterion applies irrespective of the evaluation model, the program area, or the evaluation philosophy. Information utility is defined as the degree of congruence between the evaluation information provided by the evaluation team and the information required and desired by the relevant information users.

In completing a review of some two dozen programs (sample included ESEA Titles I, III, VII, VIII), a large discrepancy was discovered when the information provided in final evaluation reports was matched with information users' needs (as perceived by project staff). As much as 98 percent of the information presented in the reports was of no value to users above level 2 (see Figure 3).

Project Staff	Project Director	Upper Management	School Board	Community	SEA	USOE	Professional Community
1	2	3	4	5	6	7	8

Figure 3

HYPOTHETICAL LIST OF INFORMATION USERS

A similar mismatch was found when the evaluation intentions of project directors and project evaluators were compared with reality. The school board, project director and the funding agency were consistently ranked in the top three information users, yet the types of information provided in the evaluation reports were generally of absolutely no use to the school board of funding agency, and in many instances, were of limited value to the project director and project staff.

The solution to these mismatches is the identification of information needs and information users before or shortly after the project begins. As simple as this solution is, and as easily as it can be applied, one wonders why evaluations are implemented without a firm grasp on the evaluation information requirements.

The concept of information utility is the overriding characteristic that differentiates "good" evaluation from "poor" evaluation and differentiates undisciplined data collection from information gathering. Judged by even modest standards of utility educational research and evaluation has a pitifully poor record, and the unfortunate educational manager or policy maker operating within this void must sift through mountains of data for those kernels of desired information.

If the audit team accepts and applies the criterion of information utility as a standard, then many of the problems previously identified can be avoided. Audit reports would become more useful and comparable across projects in that the same criterion of evaluation adequacy would be uniformly applied. In addition, the concept of information utility is consistent with the most common conceptions of evaluation, and thus does not pose unresolvable conflicts due to competing models or philosophies.

Role Definition and Information Utility

The technical assistance role and the certification role have already be mentioned; however, these roles take on new dimensions if information utility is accepted as the standard. There are three points of audit intervention in the evaluation process: design stage, implementation stage, and reporting stage. At each stage the audit activities vary depending upon the role.

Technical Assistance Role

Design Stage - The audit team provides expertise and assistance in the following areas: Specifying information requirements, specifying evaluation questions, data base construction, instrumentation design, sampling design, data analysis alternatives, data reduction alternatives, reporting options, etc. The role is supervisory

oriented and the direct beneficiaries are the project evaluation and management team.

Implementation Stage - The audit team periodically monitors the implementation of the evaluation design and is continually sensitive to updating information requirements. The integrity of the implementation process is the major audit concern during this stage; however, a supervisory professional assistance posture rather than a certification-documentation posture is maintained.

Reporting Stage - The audit team monitors the reporting process and checks the accuracy of the report and comments on the report's responsiveness prior to final publication. Although the accuracy of the results is monitored, the audit team does not attempt to represent itself as an independent third party, and thus the certification is informal rather than formal.

Certification Role

Design Stage - The audit team has very little to say during the design stage. Complete independence from the design development process is maintained. After the evaluation design document is prepared, the audit team reviews it and certifies the technical adequacy of the design without consideration for its responsiveness to information requirements. Particular attention is paid to the types of instruments, the sampling plans, and the data analysis techniques to be used.

Implementation Stage - The audit team meticulously documents the way in which the evaluation is implemented and notes any deviations from the design document. Particular attention is payed to such items as instrument administration conditions, data reduction, and handling procedures, etc. The audit teams concern during this stage focuses on any implementation issues which might jeopardize the integrity of the evaluation results.

Reporting Stage - The audit team issues a formal statement bearing on the adequacy of the evaluation process and the accuracy of the evaluation results. The independence of the audit team is mentioned in the statement. Generally, the audit team prepares their certification stateement in the form of an audit opinion (see Stenner, Webster 1971).

The two roles described above are incompatable primarily because of the importance independence plays in the certification role and its relative unimportance in the technical assistance role. Stenner and Webster highlight the importance of independence to the certification role:

> To be independent, the EPA should not only be independent in fact (i.e., intellectually honest), but also must be recognized as such by others. For example, an EPA whose brother sits on the local board of education might be unbiased in expressing his opinion on the evaluation results of that school system; but the public would be reluctant to believe that he was, in fact, unbiased. It is the responsibility of the EPA to assess his relationship with the education agency and to determine, under the circumstances, whether his opinion would be considered independent, objective, and unbiased by the public which he serves.(15)

As previously mentioned the number of projects which can use an independent certification is much smaller than currently recognized. If the primary audience for the audit report is the state education agency or USOE, then the technical assistance role is much more productive.

The accomplishment audit holds promise for upgrading local evaluation capabilities, and thus improving local project efforts. The future growth of the audit concept will depend upon how effectively accomplishment auditors and state education agencies resolve the questions of role definition, and at the same time introduce some generally accepted evalaution auditing principles into the mainstream of local program evaluation and management.

FOOTNOTES

[1]Stenner, A. Jackson and Webster, William J. Educational Program Audit Handbook, Arlington, Virginia: IDEA Corp., 1971.

[2]Morin, Alfred J., Handbook for Educational Program Audit. U.S. Department of Health, Education, and Welfare Contract No. OEC-0-80-5047, 1971.

[3]Scriven, Michael S., The Methodology of Evaluation in Perspectives of Curriculum Evaluation, Chicago: Rand McNally & Company, 1967.

[4]Morin, Alfred J., 1971

[5]Stufflebeam, Daniel L., et.al., Educational Evaluation and Decision Making, Itasca, Illinois: Peacock Publishers, Inc., 1971.

[6]Ibid.

[7]Provus, Malcom, Discrepancy Evaluation, Berkeley, California: McCutcheon Publishing Company, 1971.

[8]Klein, Stephen, Ferstermacher, Gary and Alkin, Marvin C., "The Center's Changing Evaluation Model", Evaluation Comment, Vol. 2, No. 4 January, 1971.

[9]A Scheme for Evaluation and an Organizational Structure of Variables, Booklet for Developing Evaluation Skills #1. Tucson, Arizona: Educational Innovators Press, 1970.

[10]Hammond, Robert L., "Evaluation at the Local Level" (address delivered before the Miller Committee for the National Study of ESEA Title III, 1967) P.5.

[11]Stake, Robert E. "The Countenance of Educational Evaluation", Teachers College Record, Vol. 68, No. 7, April, 1967.

[12]Ibid.

[13]Stenner, A. Jackson, Information Based Evaluation Series Book 1: An Overview of Information Based Evaluation: A Design Procedure. Arlington, Virginia IDEA Corp. 1972.

[14]Stenner, A. Jackson, Information Based Evaluation Series Book 2: Identifying Information Requirements and Formulating Evaluation Questions, Arlington, Virginia: IDEA Corp., 1973.

[15]Stenner and Webster, - 1971.

DETERMINATION OF APPROPRIATE EVALUATION DESIGN FOR PROJECTS

Mark M. Greene

Over the past two and one half years our staff has engaged in 60 audits of some 34 different projects. The range of the projects we have audited extended from a ten million dollar state-wide program to a six thousand dollar project in a single school building. The program areas in which our audits have been performed include bilingual education (Title VII), State Title I, State Title III, Federal (306) Title III, and locally funded programs of every color and hue extending from law enforcement training to ecological learning centers.

Based upon what we know, what we think we know and what we have learned from these experiences, we have adopted a certain way of looking at evaluation designs. In effect, we have developed a mental checklist that we find useful when examining a project's evaluation design. In the next few minutes I would like to share that checklist with you.

Two Assumptions

Before entering into the discussion of considerations which we entertain in critiquing evaluation designs, it might be well to make explicit two of our working assumptions:

The first assumption is this: During the pre-audit critique, a primary function of the auditor is to review the project's evaluation design and to determine areas of specific weakness. When he finds such an area, his task is to provide viable alternative solutions to the project staff. The term viable here is important because it implies that the solutions offered by the auditor must fall within the limits of project resources.

The second assumption is that the evaluative needs of projects differ. That is, it is assumed that (a) projects differ in scope and intent, (b) project settings differ and (c) project staffs differ. Thus, it seems reasonable to assume that there is no single evaluation design which has uniform applicability across all projects. Indeed, if such a design existed, there would be little need for a pre-audit critique. Acceptance of this assumption implies that evaluation

designs are expected to vary project to project.

Given the foregoing assumptions, there appear to be three major categories of considerations on our checklist.

First - Intra-personal considerations - i.e., expectations that the auditor himself brings to the project.

Second - Project centered considerations - i.e., local factors which the auditor must consider in making his recommendations.

Third - External considerations - i.e., the requirements for evaluation and reporting imposed by the sponsoring agency or the funding agency.

Intra-personal Considerations

One of the chief reasons that educational auditors are brought to projects is that they presumably possess a perspective of project operations and evaluation which differs from that of the project staff. Sometimes this different perspective is referred to as "objectivity". At any rate, I'd like now to make explicit some of the items that I find useful in reviewing a project's evaluation design. Essentially, there are three subsets of elements here:

An implicit model of a good project

An implicit model of a good evaluation design

A personal bias about what constitutes success

Our implicit model of an idealized project is quite simple, being comprised of only six elements:

The first element is simply an adequate definition of the problem which the project is supposed to resolve. In the absence of an adequate problem definition, it may be difficult to assess the subsequent impact of the project. Thus, in our idealized model project, there should be an adequate data base at the outset.

The second element of the idealized project model is that of a defined or definable solution to the problem.

Usually, a project's "solution" involves the application of a set of materials or procedures to the members of the target population. Thus, in order to learn whether the solution (a) delivered at all, (b) delivered as intended or (c) was instrumental in resolving the in initial

problem, it is essential that the solution either be defined or be capable of definition.

The third element of the project model is a sound rationale. That is, the solution should have a logical linkage to the problem, and the linkage should be understood by all project staff members. Where we have encountered a lack of project rationale or a lack of understanding of the rationale we have generally found a project operating in either a perfunctory manner or with a multiplicity of seemingly nonrelated activities.

The fourth element is that of a plan for implementing or delivering the project's solution. Some individuals refer to such a plan as a "management" plan or an operational plan. At any rate, in the absence of such a plan, it is not only difficult to assess the extent to which the project's solution was delivered as intended, but it is virtually impossible to develop a coherent evaluation design.

The fifth element of the project model is that of a plan for evaluation. If the project's informational needs are not anticipated in advance, then it is quite unlikely that the data essential to either the project's decision-making processes or to a determination of project outcomes will be collected in a timely manner.

The sixth element of the idealized project model is one of commitment to elements four and five. That is, without the commitment to carry out the basic operations outlined in the management plan or evaluation plan, these documents become worthless scraps of paper and the measurement of the effectiveness of the project becomes an open question.

It is against the back drop of this model that we make our initial judgements about the project and certainly about the project's evaluation design.

The Implicit Criteria for a Good Evaluation Design - Continuing on with the list of considerations which we use in reviewing a project's evaluation design, there is a second set of elements which we have also found useful, i.e., a set of implicit criteria for a sound evaluation design.

Essentially, our set of implicit criteria is simple in nature and is best described in terms of major functions to be performed. Before describing those functions, I believe an analogy might be in order. Those of you who have ever been to sea, know that on most ships of any size there are officers with distinct duties. One of these officers is the captain of the vessel and his duties include

determination of the ship's destination and supervision of the ship's operation. Another officer of importance to the ship is the navigator. His functions do not include determination of the ship's destination, but he is charged with laying out a course, providing information about the ship's progress along that course, and when the destination is finally reached, it is his duty to apprize the captain of the ship's proximity to the selected anchorage. Over the past few years, we have used this navigational analogy as an implicit model for gauging evaluation designs. That is, we view the project evaluator's major functions as roughly equivalent to those of the ship's navigator. Accordingly, in reviewing a project's evaluation design, we look for the following major functions:

Assessment of status quo before the project gets underway.

Clarification of both intermediate and ultimate objectives.

Provision for interim information to guide the project as it progresses.

Provision for assessment of project outcomes and attainments at the end of operations.

Again, these criteria provide the rough comparative base against which we have made judgements about the adequacy of a project's evaluation design.

A Personal Bias - A third element which has proved useful in reviewing project evaluation designs is a personal concept of "success" as applied to innovative or exemplary projects. Essentially, I tend to view as successful those projects which yield the clearest information about their attainments. I believe that it is just as important to know that a process will not produce the expected changes in students as it is to know that it will produce those changes. To this end, I advocate the strongest possible rigour in producing answers for hard questions.

Project Centered Considerations

Another set of elements which have significant import for a project's evaluation design are the situational factors which one encounters at the project site. Each of the elements that I am about to mention has its own impact upon the project's evaluation design. And, I submit, that it is only by a consideration of elements such as these that the auditor is able to critique an evaluation design and to provide viable alternatives. It should be clearly understood that I am not talking about the wholesale

compromise of an experimental design here; rather, I am speaking of the very real, very practical matters which temper the recommendations which an auditor can make.

The first element is that of project identity. If a project is service oriented, then the evaluation design may be quite different from that of a developmental project, or an experimental project. To be specific, a project which conceives itself as merely providing a service is usually not interested in an assessment of the causal relationship between the services provided and the attainment of project objectives. (Whether there should be a concern here is another matter and indeed the auditor may spend a fair amount of time attempting to interest the project staff in this issue). Nonetheless, the appropriate design for a service project is not likely to be the same as that of a developmental project. The appropriate evaluation design for a developmental project might entail several revision cycles for the material under development and determination of their subsequent effectiveness. On the other hand, the evaluation design for an experimental program would probably entail a consideration of the causal linkages between treatment and outcome. At times, a project might even be a blend of all three project types. Thus, the auditor has to make an initial judgement about the essential identity of the project and base his recommendations on that judgment.

The second element in this category is that of project resources. An immediate concern to the auditor is the amount of monetary and staff resources which have been allocated for evaluation. Thus, for example, the number of dollars available for evaluation purposes will largely determine the amount of data which can be collected, reduced and analyzed. Accordingly, the auditor's recommendations have to fall within the dollar limits of the project.

A third element which is within the project resource area is that of staff talent for evaluation. This element represents a set of critical considerations for the auditor. The sophistication of the project evaluator, for example, will largely determine the range of data analyses which the auditor can recommend. Also, the ability of the project director to comprehend statistical presentations will effect the project's plans for report preparation. Again, if the auditor is to offer the project viable alternatives to the evaluation design, those alternatives have to be tempered with a knowledge of (1) the capabilities of the individuals who will be executing the design and receiving the resultant information, or (2) the project resources available to procure the necessary technical assistance.

The fourth element here is the availability of historical or other comparative data. Sometimes, on some projects, there are no

baseline data and there is no hope of obtaining comparative data from a neighboring school. In such situations, it ill behoves the auditor to recommend that the project obtain comparative data from these sources. Thus, in making his recommendations, the auditor has to be aware of the local limitations for obtaining comparative data.

A fifth element is the time frame of the project. The essential consideration here for the auditor is awareness of the time constraints of the project. If the project is near the beginning of a four year developmental effort, the project's current evaluation design should probably be focusing on the collection of baseline data and upon the establishment of the recurring evaluation-developmental cycles. If, on the other hand, an experimental project is in its final year, the evaluation design should be focusing upon the collection of data to measure the impact of the project upon the original conditions.

A sixth major element is that of identification of the ultimate beneficiary of a project. That is, some projects focus on the training of classroom teachers. I submit that an adequate evaluation design for such programs does not end with an assessment of how the teachers felt about the training program nor even with how well they performed within the workshop setting. Rather, the ultimate beneficiary of such programs is probably the student in the classroom. Thus, identification of the ultimate beneficiary of a training program represents an important consideration in planning the project's evaluation design.

External Considerations

The third major category of considerations on our checklist is essentially comprised of expectations of the funding agency or sponsoring agency.

The first element of this category is that of expectations for evaluation plans. Specifically, in his review of a project's evaluation design, the auditor must know what the sponsoring agency has required (as a minimum) in the way of evaluation plans. For example, some sponsoring agencies require a rather extensive amount of detail in the project's evaluation design. The guidelines for Title VII programs, to cite one instance, have required:

> specification of performance objectives, each containing the five essential ingredients
>
> specification of the general measurement techniques for each objective

specification of the specific measurement device for each objective.

specification of the proposed analysis

specification of the report dates and intended recipients

specification of the person responsible for report preparation...and so on.

On the other hand, there are instances where the funding agency has established minimal guidelines for evaluation. In some instances, the guidelines for funding require little more than an affirmation that evaluation will be accomplished. The critical point for the auditor, is that he must be fully aware of the minimal legal requirements for the evaluation of the particular project he is working with, since, in many instances, these requirements may represent a legal basis for his recommendations.

A second element is the reporting requirements established by the funding agency. Again, we have encountered wide variation in the content and type of evaluation report required. In some instances, the requirements call primarily for the reporting of outcome data (e.g., the percentage of students attaining the objectives); in other instances, the requirements in effect call for the reporting of controlled studies. The implication here for the evaluation design is that projects tend to deliver the type of data that they are required to report. Thus, the auditor again must be familiar with the reporting requirements if he is to provide viable recommendations to the evaluation design.

A third element in this category is that of the sponsoring agency's expectation for project work organization. In the past, the Title VII guidelines, for example, have usually required (or implied the necessity for) organization of the project work along product-process objectives lines. On the other hand, some agencies make no such requirement. A particular concern is that process evaluation very rarely occurs where it is not specifically required. The significant point here, again for the auditor, is that he must be aware of agency requirements, since such requirements will significantly influence the scope of project evaluation efforts.

In Conclusion

With the foregoing list of elements, I have attempted to convey two general notions. The first notion is that in critiquing project evaluation plans, I have found it useful to establish standards of

comparison; i.e., some rough, idealized models against which project efforts can be compared.

The second notion is that there are a number of considerations arising from the local situation and from the funding agency which temper the project's evaluation design. Furthermore, these considerations impinge upon the recommendations which the auditor can make if he is to provide viable formulations. I believe that the interests of the client are best served through a consideration of both the ideal and the practical.

THE VALIDITY, RELIABILITY, AND MARGIN OF ERROR OF AUDIT REPORTS TO VERIFY EDUCATIONAL EVALUATION REPORTS

Daniel P. Norton

In June, 1972 the General Accounting Office of the United States published, over the signature of its Comptroller General a new document titled Standards for Audit of Governmental Organizations, Programs, Activities, and Functions. Its recommendations for accuracy, completeness, and fairness in report writing include this statement:

> Report preparation, review and processing procedures should be applied to produce reports that contain no errors of fact, logic, or reasoning.(1)

Imagine that,--no errors!

Practicing educational auditors may agree that an auditor's recommendation to project management that "A more therapeutic approach is called for" (2) is indefensible on grounds of fact but determination of what is and what is not auditorially correct performance for non-financial aspects of educational program audits has clearly not proceeded as far or as fast as its serious practitioners must wish it had. First generation audit documents for ESEA Title VIII projects have ranged from the broadly conjectural, as illustrated by the above quotation calling for a therapeutic approach, to the tightly restricted in which the audit process suffers through contractual limitations and supplemental pressures to commenting only upon statements that actually appear in evaluation documents. (The latter becomes restrictive when the evaluator then deals with only a small fraction of the domain of relevant project concerns and thus condemns both the evaluation and its audit to potential irrelevance).

In the new Standards, as a fourth content guideline standard for the reports, is this statement:

> Include only factual information, findings, and conclusions that are adequately supported by enough evidence in the auditor's working papers to demonstrate or prove, when called upon, the basis for the matters reported and their correct-

> ness and reasonableness. Detailed supporting information should be included in the report to the extent necessary to make a convincing presentation. (3)

Emphasis upon need for evidence in working papers of auditors that statements made by them are correct and reasonable may help give operational meaning to what the auditor must do to prepare acceptable reports,--they must be able to establish validity for their statements through enumerative description and analysis. For their statements to be valid they are dependent upon the availability of information that is reliable (other auditors would see the same things in it); to the extent that perfect reliability cannot be assured for a given statement it must be made with a margin of error in association with it. My presentation has concern for how socially or educationally relevant sources of invalidity that are present in evaluative statements for educational programs can be identified, and how auditors may strongly contribute to educational improvement as a result of their very difficult undertakings.

Auditing for Action:--An Example

The first comprehensive audit of an ESEA Title I program administered by a state education agency was reported by the HEW Audit Agency on April 2, 1970. This excellent audit document dealt with expenditures of the State of Hawaii's public school system for the period from September 24, 1965 through August 31, 1969. The Standards document has emphasized that "responsible officials should give consideration to the needs of the potential users of the results of that audit" (4) Although the report for Hawaii was prepared two years before the Standards document was published, it attended to this requirement in part through a discussion of test scores. Upon completion of a description of gain statistics achieved in Hawaiian projects it was written that:

> This evaluation did not include recommendations, conclusions, or explanations for the wide range of results. Comparative analyses of the background of teachers, teaching techniques, equipment in use, local factors influencing results, etc., were not included in the evaluation. The test scores could not be related to expected results because such expected results had not been defined. Thus, the evaluation did not provide program personnel with any bases upon which to adjust or refine their efforts (underlining added, 5).

This statement went an important step beyond noting the correctness or falseness of evaluative summaries from Title I programs in the state and applied the principle that evaluation has a service function to render through generation of recommendations for action by project managers. In doing so the Branch Supervisor in charge of the audit correctly noted, with reasonable certainty, that recommendations, conclusions, and explanations were not given. He also correctly noted comparative analyses were not present and managed, with limited pedagogical background, to see that because expected results were not defined, the evaluation was of little value even though pre- and post-test data was, as required, reported.

Some of you who have seen far too many instances of useless testing, may be interested to know, as an aside, that the same audit report remarked:

> However, if it is known in advance that test results are not going to be evaluated (used), the administration of the test would appear to represent an unnecessary cost and reduction of available hours for instructional purposes. (6)

Thus the document contains clear examples of how it is possible for an audit document to both attend to facts and retain concern for the relevance and utility of an audit report.

The Domain of Validity Concerns of EPA's

To continue pursuit of my discussion topic, let me now define two terms -- attribute and variable. The brief definitions I will give you are taken from a bound set of planning memoranda having concern for audit sampling. The memoranda were prepared at the request of the Accounting and Auditing Policy Staff of the U.S. General Accounting Office between the interval from October 1959 to November 1960. This simple definition is provided in the third memorandum:

> An attribute is a quality. Sampling for attributes is sampling where each unit is found either to have or to lack some characteristic. This is contrasted with sampling for variables, where some (numeric) measurement is recorded for each item. (7)

The Educational Program Auditor (EPA) is usually called upon to attend to several dozen or more goal statements. Many or most will have to do with attributes, the dichotomous or yes-no forms just defined. Others, such as goals for increased test performances that are not dichotomous through criterion referencing or other codifica-

tion, will have the numeric characteristics of ordinal measurement. For a very small project it may be possible for an auditor to carefully study all or nearly all of the evaluation activities and documents associated with a given evaluation report. No sampling may be required; only selection may be needed from among goals on the basis of their relevance for subsequent action. However, when a project is large and involves hundreds of units of operations or data, it is not expeditious for the auditor to include all the sets of units; sampling becomes an important method for increasing auditing efficiency.

In some respects, it is easier to understand the validity concerns of auditing by first considering issues associated with small project audits. For today's purposes I shall define such an audit to be one that is characterized as having concern for less than 200 subjects, performance measures, or other units in its data sets. Since sampling will usually not produce reduced work loads to the auditor unless this number is exceeded, it can serve as a convenient break point for reflections about audit validity.

Sources of invalidity can be found in not less than seven different evaluator activities; potential irrelevance of evaluative information for action can usually be found in the same seven. They constitute one description of the domain of concerns of EPA's.

The definitions of treatment or program input and output variables, processes, and desired products.
Procedural specifications for their measurement.
Information collection through the application of procedures.
Coding or scoring of collected data and information.
Information-data transmission, stroage and retrieval.
Information processing.
The reporting of results.

What an impressive domain this is! The list covers fidelity of program implementation with its proposed scope and sequence; for this the physical presence of auditor to occasionally observe events may be required. It calls for judgment of the appropriateness of measures and for knowledge of data collection procedures; personal observation may also be necessary for the latter. Coding-scoring procedures must be verified; transmission, storage, and retrieval must be understood lest error enter after preliminary recording; information processing must be understood and analyzed to identify errors that may be identified in that step. Finally, documentary reporting must be closely studied for its accuracy.

These steps cannot be undertaken at the same time and therefore require repeated presence of the auditor on site. Some, such as site

visitations to verify implementation, may require large blocks of time, much of it of low productivity when the social amenities of visitation are included. They may in total require surprisingly intensive efforts for small projects,--nearly as much as for projects having budgets several times as large.

There will clearly be need, if dozens of objectives and goal criteria apply, to almost replicate the evaluation if a full audit is attempted. Accompanying costs will amount to at least tens of thousands of dollars per pupil. Therefore, careful analysis of audit alternatives is necessary with the intention of identifying most probable sources of invalidy in advance.

One may ask, which variables might be least clearly defined for implementation? An objective to provide work-study opportunities for students may be well understood but one to develop models of teacher performance will be fraught with imprecision. Administration of a standard criterion measure may be easy to understand but a preliminary description of the development and administration of a measure of group interaction may mean very little to the auditor-reader. Data collection, storage, and retrieval by use of a well developed information system can be easily understood but the same operations, when undeveloped and untested, can be loaded with potential error.

It is, unfortunately, not possible in this presentation to describe more than a few of the many errors that can arise and lead to invalidity. The expertise and experience of the EPA must be sufficient to enable him to elaborate upon brief outlines. Of course, the substantive content of the Campbell and Stanley (8) article, while partly outdated, is still highly relevant to the use of competent EPA judgment and to the determination of potential sources of invalidity; no other single source contains so much useful information.

Given that potential sources of invalidity have been sought and the potential action relevance of indicators has been considered, the EPA must be capable of selecting, probably within very tight financial limitations, audit activities that will lead to: (1) low audit equivocation about results (high validity); (2) results that would be replicable by another competent auditor (reliability); and (3) results having low margins of error in statements of summary statistics for variables when reports are written. Selection, as contrasted with sampling, will usually be undertaken from among potential audit activities of small projects. Selection will be non-random and intended to produce the best audit buy for the dollar within the specific restriction that audit statements must be factual and relevant.

Validity Concerns for Large Projects

When readying this presentation my judgment said I could not do the topic service without talking about sampling. Indeed, it sometimes seemed that should be the single focus for my remarks. As a consequence, the next rather long series of statements is about sampling. Some readers may find it contains little that is new; while I have tried to include remarks that will be of interest, you may wish to skip ahead to later statements about the need for better agency information systems. Those who stay with this section may find it will introduce for use sampling tables more detailed than those commonly used by field workers in education.

The first GAO memorandum I previously referred to presents three reasons for sampling information: (1) it can make auditing cheaper; (2) more accuracy may result; and (3) time may be saved. (9) It is rather obvious that speed and cost advantages may result, but less obvious that accuracy may be improved. Yet, at least three reasons for improved accuracy can be given. First, a better quality of audit worker can be employed when fewer are needed; secondly, sampling can reduce the total time required thus cutting coordinative errors and those caused by fatigue; finally, activities of the auditor can be more closely supervised because fewer persons will be involved over shorter time intervals.

To randomly sample is to select by chance. A population or universe will, for an EPA, be a group of goal attainment indicators, items, or other evaluation elements that are pertinent to an evaluative statement or recommendation (I have given a set of seven that loosely covers auditor concerns for validity). Since random sampling is governed by chance alone, a sample is a portion of a population selected to represent the whole population.

The auditor must, when large projects are involved, be able to decide when sampling will or will not benefit the audit task. In the preponderance of cases, sampling will have concern for attributes, those yes-no determinations for response variables mentioned earlier. The EPA may wish to be able to use a simple table or figure to determine sample sizes. Such brief devices were prepared by Krejcie and Morgan and published in Educational and Psychological Measurement in 1970. (10) The table they produced shows sample sizes that do not exceed 400 cases (the highest entry is 384). At populations of 100 the sample size must include 80 cases; at a population of 200 the sample would be 132 thus explaining in part why I earlier suggested that a population of 200 may serve as a breaking point for a general decision to have primary concern for sampling versus selection. The same authors also prepared a figure from which sample sizes for intermediate values of N might be read.

The Krejcie and Morgan article provides the briefest and simplest information about sampling that I have found useful. However, sample sizes drawn by its use will differ somewhat from those drawn by more exact methods and will be higher. The reason for this difference is essentially twofold. First, the table was prepared by assuming that the proportional value for the population .50. This may usually not be the case in important educational audit situations.

For example, dropout proportions in a given year may run as decimal fractions of .10, .13 or a much different value. Second, the "degree of accuracy" used in preparation of the article (otherwise called "margin of error" or "confidence" or "degree of accuracy") was taken to be .05. That is, if an auditor made repeated statements based on such sampling they would expect to be correct 95 percent of the time. Because an auditor often will not wish to use proportion estimates of .50 or margins of error of .05 (ostensibly, .50 ± .05 combinations), more accurate procedures may be needed for various situations. These procedures will either require computation of alternate values from formulas available for that purpose or the opportunity to read values from already tabulated sources. I have found an article by Gallup (11) and the now old text by Walker and Lev (12) to be useful references. The latter source has the added value of including a thorough discussion of power and the presentation of formulas linking power considerations to sample size.

The ninth of the audit sampling memoranda I mentioned earlier has tabulated in it suggested sample sizes for expected proportions listed as:

> "Rates not worse than" .20 or .80; .15 or 85; .10 or 90; and .05 or .95."

Two tables are presented for each "worse than" classification, one each for degrees of assurance or accuracy of .05 and .01 percent. The eight tables are entered by rows on population values and by columns for desired margins of error. Its entries provide lower sample size values than the Krejcie and Morgan article. The differences range from 124 to 132 for populations or universes of 200 to 245 to 381 for a population of 50,000 in the seventh and most comparable of those tables. The differences are due both to the fact smaller sample sizes are required when the expected rate or proportion differs from .5 and because slightly different formulas were used for the computation of entries.

Perhaps I can illustrate a number of points by presentation of an audit sampling problem that links to the GAO table.(13) Consider a situation I recently read about (the source is conveniently forgotten) where an educational performance auditor "took a sample" of 20 of 200 students to study a goal attainment statement. The project goal could

have been: to reduce class cutting by 10 percent, from 30 percent to 27 percent. The indicator might, at first glance, have been "pupils who were absent more than 27 percent of the time". If so, we can enter GAO Table 4-A under the three percent column where we find no entry in the row for 200 as a population number. Blanks in the table indicate a rate of more than half of the population would be needed in the sample. Thus a sample of more than 100 students whose attendance records for the year would be studied for a yes-no decision on attainment of the less-than-or-equal to 27 percent goal would, 95 percent of the time, permit the statement that the population had attained a value that was between 30 percent and 24 percent,--that is, 27 percent $\pm$ 3 percent which would be well within the goal. The value of 132 from the Krejcie and Morgan table would suffice.

This illustration does not take into account that a one-tailed distribution rather obviously fits the situation better than the two-tailed application I have made; one must hope that most practicing EPA's could make this distinction and act effectively on it. However, it should be clear that the reported sample of 20 would be sufficient to meet the intended responsibility of the auditor for this particular goal. Furthermore, a quick approximation suggests that the sample of 20 would permit the auditor to state the 10 percent reduction had been attained about one-third of the time when, in fact, there had been no population change,--a success ration that would not meet stick-to-the-facts guidelines of the GAO.

But, let us examine this situation more closely. Perhaps the authors had in mind a population from which to sample that included a vector for each of the 200 students in which was entered their daily attendance on a present-or-absent criterion. If this pupils-by-days matrix defined the population we are interested in, it might have had 200 pupils x 175 days = 35,000 cells. Random sampling from this matrix would call for not less than 670 student-day combinations to be drawn. Straight random sampling from it might lead to one or more days of each students' attendance being drawn in a sample. It would almost certainly take longer to conduct than sampling of the records of just 132, or for all line elements for just 20 students. The amounts of time required for conducting different sampling options must, of course, be an important consideration in setting up the sampling frame.

Should this complete our consideration of this example? I have, on a recent occasion, visited classrooms where, for accountability purposes, hourly attendance was kept but where attendance meant only that the student was present in the building. I saw a student in a mathematics class report to the teacher, comment that she had to visit with a friend in the corridors of their open school. They did not return for the hour but were counted present on records. Therefore, perhaps our auditing frame should, on occasion, have an additional

dimension for attendance by hours of the day. If so, and if there were 5 hours per day, we could have 35,000 x 5 cells to consider, or 175,000 in all. Yet, the surprising but often ignored advantage of sampling for audit (or evaluation) purposes is that, as Table 4-A indicates, only a few more of these cells need be sampled to meet the confidence level preference that was originally presented.

What, then, did the sampling of 20 subjects provide? I could not tell from what was written and doubt anyone else could either. The group may have been not a sample but a selection intended primarily for other purposes, as for example to learn about operational features of data collection procedures. It does not, I must suggest, meet requirement for GAO audit report development. The exact number to be chosen then and on other occasions is always in part dependent on technical sampling capabilities of the operating EPA and on operational characteristics of the job, but it is difficult to understand how any competent EPA can fail to apply sampling theory or have working concern for margins of error as indicators of validity in reports.

There is Need for Better Educational Agency Information Systems

I wish now to turn to several special issues which I believe pertain to validity of audit reports.

The example I have given of sampling issues is intended to link with the continuing preoccupation an auditor must have for student experiences and performance. I have noted that, by the addition of but a dimension or two, the domain of concerns of an audit for even a hundred students can rapidly balloon toward infinity. The example may also have called to your attention how dependent an auditor must be upon the efficienty of existing evaluation and record systems of educational agencies. Auditors must verify that existing procedural systems for data collection, processing, storage, analysis, and reporting, deliver information of high quality if they are to have any prospect of preparing useful reports.

By far my most impressive experience in this regard has arisen through audit efforts with a project in the St. Louis public schools. Several thousand students constituted the primary population of this Title VIII ESEA project. Clearly at issue during the first year was whether the evaluator could successfully follow up on this number of students with frequency and fidelity good enough to permit both useful and valid results to be obtained. A first field audit visit distinctly revealed that existing citywide data systems were not adequate to support the needs of the project. The evaluator would, it seemed evident, be unable to prepare a comprehensive evaluation report without additional help or support. There were far too many records and there

was far too much to attend to! There were too many places for the evaluator (and, incidentally the auditor) to be; there was too little time to accomplish what was proposed.

Fortunately, a major effort was made during the second program year to expand city wide information systems through use of a pupil identification number and to make them more responsive to evaluation needs. The magnificent response that was made, which the St. Louis public schools seem to me to have been unduly modest about, led to a notably more effective system at the end of the second year of evaluation. Citywide student data systems were modified and improved to the marked benefit of project evaluation.

Sampling and validity concerns for auditing then were markedly changed with concern now directed more to sources of invalidity prior to data insertion in the system. System function was verifiable by the tracing through of much more limited numbers of cases. Audit performance became more efficient at the same time that evaluation was markedly improved. The feasibility of EPA employment will often, I believe, be determined largely by the presence or absence of such systems within local agencies. Without them many evaluation and audit tasks can be almost impossible to conduct at reasonable cost.

Overlap of Financial and Educational Program Audits

It has sometimes been suggested to me that an EPA need have no concern for aspects of program covered by financial auditors. I disagree! For example, consider a project that involves a work-study program for students. Two records will probably exist in parallel with each other, one for payment of wages for hours worked and the other for attendance at school. I assure you these records may not agree. But, if the EPA performs competently, do they not have to? The following statement of the new GAO (14) document seems to speak to this point: It is a definition of one of three operating elements of new types of audit where the manner and effect of applying public resources is to be studied:

> Economy and efficiency--determines whether the entity is managing or utilizing its resources (personnel, property, space, and so forth) in an economical and efficient manner and the causes of any inefficiencies or uneconomical practices, including inadequacies in management information systems, administrative procedures, or organizational structure. (15)

Existing EPA contracts do not customarily include the requirement that financial and educational program audits be conducted in an

overlapping manner. The cost of doing so would often be prohibitive unless only those features of financial audits which most directly relate to EPA concerns were to be included. Current contracts have not, it must be hoped, served as barriers to the pursuit of validity concerns for outcomes into limited groups of financial records.

There is Need for Student Flow Information

A major recurrent problem to evaluation and audit is the flow of students into and out of classrooms, programs, buildings, neighborhoods and cities. An audit can hardly lead to statements of fact without understanding of this flow. For example, a recent summary of recidivism in the St. Louis schools that became possible as a result of improved student system functioning revealed that, of 246 dropouts from the 1970-71 year, 86 (35 percent) had returned to a building in the system during the fall, 1971. Some had, by fall, 1972, been counted as dropouts on two prior occasions. The meaning of goal attainments for dropout reduction for the project could easily be clouded by lack of understanding of the meaning of this rate.

Also, it is repeatedly necessary to ask whether groups that were pretested were comparable to groups that were posttested. This nagging question can only be answered in part by the use of matched longitudinal data for students on pre- and posttests. High turnover in project enrollments can easily lead to a circumstance where students for whom matched data is acquired are not representative of the populations for whom the program was designed. Validity in auditing is critically dependent upon evaluators receiving or being able to generate efficient information systems about student flow.

The Perversity of Unexpected Problems in Data Collection

I am sometimes amazed at my inability and the apparent inability of competent evaluators to anticipate how artifacts to program performance may unexpectedly contribute to apparent program outcomes thus invalidating outcome statements. Last week I narrowly missed producing an error when, without my knowledge, a clerical worker elected to give false instructions to a keypunch supervisor. The set of instructions originally provided was not clear. I did not know this until the job was half finished, at which time it became evident a source of bias potentially cumulative to 5 percent in a response frequency had occurred. The error was corrected but it was almost missed even though the clerical worker was questioned from a check list about her actions.

A field audit observer from my office last week found a teacher who, when administering an attitude survey to children, paused and gave unsolicited advice which could only bias responses. She had been rigorously instructed not to do this. We all know of such happenings, but I believe we underestimate how often they appear when we do all we can afford to prevent their occurrence.

Artifacts, it seems to me, are most likely to be missed by auditors when working in the area of information collection; correction of this deficiency is potentially an expensive effort. Some of the audit performances described earlier by Dr. Seligman, must, I believe, have led to oversights of artifacts with resultant high potential for non-factual statements being made.

Summary

The topic to which I have addressed myself was assigned to me. I have approached it with hesitation because of the enormity of its dimensions. The path I have traveled in my comments has had major concern for the "how to do it" of sampling with the thought it might thus be possible to deal more directly with the margin of error issue and also with operational aspects of educational performance auditing. I nave not given a thoroughly detailed description of how to sample but have attempted to bring to everyone's attention the existence of tabled material they might find useful in their work and to refer to other sources. Hopefully, my illustrations are strong enough to establish that the use of these materials and concepts must be within the performance capabilities of EPA's

My citation of the new Standards document of the Comptroller General has been intended to its admonition to stay with facts. To do this requires high validity, good reliability, and low margin for error be present in backup to statements. Its citation has also been intended to call attention to the importance of maintaining concern for the social impact of programs. The same document also suggests that EPA's should not neglect paying attention to at least some items usually left to the exclusive concern of financial auditors. These points seem to need continued study and discussion if EPA's are to be appropriately "relevant". Their discussion by parties who are not aware of current developments in auditing within many federal agencies will, I believe, help prevent the provincializing consequences of having a limited viewpoint.

FOOTNOTES AND REFERENCES

[1]The Comptroller General of the United States. Standards for Audit of Governmental Organizations, Programs, Activities and Functions. Washington, D.C. U.S. General Accounting Office, 1972, p. 44

[2]Unidentified Audit Report.

[3]This and remaining standards for governmental auditing are included in Appendix B.

[4]Ibid, p. 1, p. 6

[5]U.S. Department of Health, Education, and Welfare. HEW Audit Agency, Office of the Assistant Secretary, Comptroller. Washington, D.C. 1970. Report on Review of Title I of the Elementary and Secondary Education Act of 1965, administered by State of Hawaii, Department of Education for the period September 24, 1965 to August 31, 1969. p. 17.

[6]Ibid, p. 3, f^5 (pp. 20-21)

[7]United States General Accounting Office, Washington, D.C. October 1959, Audit Sampling Memorandums, p. 3-1.

[8]Experimental and Quasi-Experimental Designs for Research, Donald T. Campbell, Julian C. Stanley. Rand McNally & Company, Chicago, 1963.

[9]Ibid, f^7. p. 2-1.

[10]Determining Sample Size for Research Activities, Robert V. Krejcie and Daryle W. Morgan. Educational Psychological Measurement, 1970, pp. 607-610.

[11]Second Annual Survey of the Public's Attitude Toward the Public School. George Gallup, Gallup International, Princeton, New Jersey. Phi Delta Kappan, October, 1970.

[12]Statistical Inference. Helen M. Walker and Joseph Lev. Holt Rinehart and Winston, New York, 1953.

[13]See Appendix A

[14]Audit Sampling Memorandums. United States General Accounting Office, Washington, D.C. October, 1959, p. 2.

[15]Ibid, f^1. (p.2)

APPENDIX A

TABLE OF SUGGESTED SAMPLE SIZES

RANDOM SAMPLING FOR ATTRIBUTES

TABLE 1-A { EXPECTED RATE NOT WORSE THAN 5% OR 95%
ASSURANCE 95% (FACTOR USED 1.96)

NUMBER IN UNIVERSE	RATE FOUND IN SAMPLE MUST NOT DIFFER FROM TRUE RATE BY MORE THAN			
	1%	2%	3"	4%
150				65
200				73
250			112	79
300			121	83
350			129	86
400			135	89
450			140	91
500		239	144	93
600		259	152	96
700		276	157	98
800		291	162	100
900		303	166	101
1,000		314	169	102
1,500		350	179	106
2,000	954	372	184	108
2,500	1,055	386	188	109
3,000	1,135	396	190	110
3,500	1,200	404	192	110
4,000	1,253	410	193	111
4,500	1,295	414	194	111
5,000	1,337	418	195	112
6,000	1,400	424	196	112
7,000	1,448	428	197	112
8,000	1,486	432	198	112
9,000	1,517	434	198	113
10,000	1,543	436	199	113
15,000	1,627	443	200	113
20,000	1,672	446	201	113
25,000	1,701	448	201	114
30,000	1,720	449	201	114
40,000	1,745	451	202	114
50,000	1,761	452	202	114
75,000	1,782	453	202	114
100,000	1,792	454	202	114
200,000	1,809	455	203	114
500,000	1,818	456	203	114
Over 500,000	1,825	456	203	114

TABLE OF SUGGESTED SAMPLE SIZES

RANDOM SAMPLING FOR ATTRIBUTES

TABLE 2-A — EXPECTED RATE NOT WORSE THAN 10% OR 90%
ASSURANCE 95% (FACTOR USED 1.96)

NUMBER IN UNIVERSE	RATE FOUND IN SAMPLE MUST NOT DIFFER FROM TRUE RATE BY MORE THAN				
	1%	2%	3%	4%	5%
150					72
200					82
250				116	89
300				126	95
350				134	99
400			196	141	103
450			207	146	106
500			217	151	108
600			234	159	113
700			248	165	116
800			260	170	118
900		441	269	174	120
1,000		464	278	178	122
1,500		549	306	189	127
2,000		604	322	195	129
2,500		642	333	199	131
3,000		671	341	202	132
3,500	1,739	693	346	204	133
4,000	1,855	711	351	205	134
4,500	1,955	725	354	206	134
5,000	2,044	737	357	207	135
6,000	2,194	756	361	209	135
7,000	2,314	769	364	210	136
8,000	2,414	780	367	210	136
9,000	2,498	789	368	211	136
10,000	2,569	796	370	212	136
15,000	2,810	817	375	213	137
20,000	2,948	828	377	214	137
25,000	3,037	835	378	214	138
30,000	3,100	840	379	215	138
40,000	3,182	846	380	215	138
50,000	3,234	850	381	215	138
75,000	3,305	854	382	215	138
100,000	3,342	857	383	216	138
200,000	3,398	861	383	216	138
500,000	3,433	863	384	216	138
Over 500,000	3,457	864	384	216	138

TABLE OF SUGGESTED SAMPLE SIZES

RANDOM SAMPLING FOR ATTRIBUTES

TABLE 3-A { EXPECTED RATE NOT WORSE THAN 15% OR 85%
ASSURANCE 95% (FACTOR USED 1.96)

NUMBER IN UNIVERSE	RATE FOUND IN SAMPLE MUST NOT DIFFER FROM TRUE RATE BY MORE THAN									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
100								44	38	33
150						72	60	51	43	37
200					99	81	67	56	47	40
250					110	88	72	59	49	41
300					119	94	75	61	50	42
350				164	126	98	78	63	52	43
400				174	132	102	80	64	53	44
450				182	137	105	82	66	53	44
500				190	141	107	83	66	54	45
600			286	203	148	111	86	68	55	45
700			306	213	153	114	88	69	56	46
800			324	222	158	116	89	70	56	46
900			339	229	161	118	90	71	57	47
1,000			353	235	164	120	91	71	57	47
1,500		674	400	254	173	125	94	73	58	47
2,000		760	428	266	179	127	95	74	59	48
2,500		822	447	273	182	129	96	74	59	48
3,000		870	461	278	184	130	97	75	59	48
3,500		907	471	282	186	131	97	75	59	48
4,000		938	479	284	187	132	98	75	60	48
4,500		963	486	287	188	132	98	75	60	48
5,000	2,474	984	491	289	189	132	98	75	60	49
6,000	2,697	1,017	499	291	190	133	98	76	60	49
7,000	2,882	1,042	505	293	191	133	99	76	60	49
8,000	3,038	1,062	510	295	191	134	99	76	60	49
9,000	3,172	1,078	513	296	192	134	99	76	60	49
10,000	3,288	1,091	516	297	192	134	99	76	60	49
15,000	3,693	1,132	525	300	193	135	99	76	60	49
20,000	3,935	1,154	530	302	194	135	99	76	60	49
25,000	4,096	1,167	533	302	194	135	100	76	60	49
30,000	4,211	1,177	535	303	195	135	100	76	60	49
40,000	4,364	1,188	537	304	195	136	100	76	60	49
50,000	4,461	1,195	538	304	195	136	100	76	60	49
75,000	4,598	1,205	540	305	195	136	100	76	60	49
100,000	4,669	1,210	541	305	196	136	100	76	60	49
200,000	4,781	1,217	543	306	196	136	100	77	60	49
500,000	4,850	1,222	544	306	196	136	100	77	60	49
Over 500,000	4,898	1,225	544	306	196	136	100	77	60	49

TABLE OF SUGGESTED SAMPLE SIZES

RANDOM SAMPLING FOR ATTRIBUTES

TABLE 4-A { EXPECTED RATE NOT WORSE THAN 20% OR 80%
ASSURANCE 95% (FACTOR USED 1.96)

NUMBER IN UNIVERSE	RATE FOUND IN SAMPLE MUST NOT DIFFER FROM TRUE RATE BY MORE THAN									
	1%	2%	3%	4%	5%	6%	8%	10%	12%	15%
100							49	38	30	22
150							59	44	33	23
200						92	65	47	35	24
250					124	102	70	49	37	25
300					135	109	73	51	37	25
350					145	115	76	52	38	25
400				196	153	120	78	53	39	26
450				207	159	124	79	54	39	26
500				218	165	127	81	55	39	26
600				234	175	133	83	56	40	26
700			346	248	182	137	85	57	40	26
800			369	260	188	141	86	57	41	26
900			389	269	193	144	87	58	41	27
1,000			406	278	198	146	88	58	41	27
1,500			470	306	211	153	90	59	42	27
2,000		869	509	322	219	157	92	60	42	27
2,500		952	537	333	224	160	93	60	42	27
3,000		1,016	556	341	227	162	93	60	42	27
3,500		1,068	572	346	230	163	94	60	42	27
4,000		1,110	584	351	232	164	94	61	42	27
4,500		1,146	593	354	233	165	94	61	42	27
5,000		1,176	601	357	234	165	94	61	42	27
6,000		1,224	613	361	236	166	95	61	42	27
7,000	3,273	1,260	622	364	238	167	95	61	42	27
8,000	3,476	1,289	629	367	239	167	95	61	42	27
9,000	3,653	1,313	635	368	239	168	95	61	42	27
10,000	3,807	1,332	639	370	240	168	95	61	43	27
15,000	4,360	1,394	653	375	242	169	95	61	43	27
20,000	4,702	1,427	660	377	243	169	96	61	43	27
25,000	4,934	1,448	665	378	243	170	96	61	43	27
30,000	5,102	1,462	668	379	244	170	96	61	43	27
40,000	5,328	1,480	672	381	244	170	96	61	43	27
50,000	5,474	1,491	674	381	245	170	96	61	43	27
75,000	5,681	1,506	677	382	245	170	96	61	43	27
100,000	5,791	1,514	678	383	245	170	96	61	43	27
200,000	5,964	1,525	681	383	246	171	96	61	43	27
500,000	6,072	1,532	682	384	246	171	96	61	43	27
Over 500,000	6,147	1,537	683	384	246	171	96	61	43	27

APPENDIX B - EXTRACT FROM GOVERNMENTAL AUDITING STANDARDS

CHAPTER 3

CONTENT

The third reporting standard for governmental auditing is:

All reports shall:

1. Be as concise as possible but, at the same time, clear and complete enough to be understood by the users.

2. Present factual matter accurately, completely, and fairly.

3. Present findings and conclusions objectively and in language as clear and simple as the subject matter permits.

4. Include only factual information, findings, and conclusions that are adequately supported by enough evidence in the auditor's working papers to demonstrate or prove, when called upon, the bases for the matters reported and their correctness and reasonableness. Detailed supporting information should be included in the report to the extent necessary to make a convincing presentation.

5. Include, when possible, the auditor's recommendations for actions to effect improvements in problem areas noted in his audit and to otherwise make improvements in operations. Information on underlying causes of problems reported should be included to assist in implementing or devising corrective actions.

6. Place primary emphasis on improvement rather than on criticism of the past; critical comments should be presented in balanced perspective of any unusual difficulties or circumstances faced by the operating officials concerned.

7. Identify and explain issues and questions needing further study and consideration by the auditor or others.

8. Include recognition of noteworthy accomplishments, particularly when management improvements in one program or activity may be applicable elsewhere.

9. Include recognition of the views of responsible officials of the organization, program, function, or activity audited on the auditor's findings, conclusions, and recommendations. Except where the possibility of fraud or other compelling reason may require different treatment, the auditor's tentative findings and conclusions should be reviewed with such officials. When possible, without undue delay, their views should be obtained in writing and objectively considered and presented in preparing the final report.

10. Clearly explain the scope and objectives of the audit.

11. State whether any significant pertinent information has been omitted because it is deemed privileged or confidential. The nature of such information should be described, and the law or other basis under which it is withheld should be stated.

This standard places upon the auditor the responsibility for preparing a report that will be easy to understand, will present the scope of the audit and the auditor's findings and conclusions in an objective and complete manner with appropriate support for positions taken, and will provide recommendations for improvement whenever feasible and appropriate.

Conciseness

The reports should be no longer than necessary to communicate the information the auditor is reporting. Reports should not be mired down with too much detail--words, sentences, paragraphs, or sections that do not clearly tie in with the report messages. Too much detail detracts from the reports, may even conceal the real messages and may confuse or discourage readers.

Although there is room for considerable judgment in determining the content of reports, it should be kept in mind that reports which are complete, but still concise, are more likely to receive attention.

Accuracy, Completeness, and Fairness

Report preparation, review, and processing procedures should be applied to produce reports that contain no errors of fact, logic, or reasoning.

The need for accuracy is based on the need to be fair and impartial in reporting and to assure users and readers of reports that what is reported is reliable. One inaccuracy in a report can cast doubt on the validity of an entire report and can divert attention from the substance of the report.

Although reports should be concise, they should not be so concise that they do not fully inform the user. Reports should contain sufficient information about findings, conclusions, and recommendations to promote adequate understanding of the matters reported and to provide convincing, but fair, presentations in proper perspective. Sufficient amounts of background information should also be included.

Readers should not be expected to possess all the same facts that the auditor has, and therefore reports should not be written on the bases that the bare recitals of facts make the conclusions reached obvious or inescapable. If the auditor has conclusions or opinions that he wants the....

xxxxxxxxxx

Extract Complete

THE ADAPTION, DEVELOPMENT, AND ADOPTION OF PROGRAM AUDITING INTO CURRENT AND NEW AREAS AND A PREDICTION OF ITS FUTURE

Alfred J. Morin

Looking back over the progress which educational accomplishment audit has made in four years requires me to reflect for an instant, on Murphy's Law and how it may be applicable to the educational community. Some of you already know Murphy's Law "If anything can go wrong, it will." Someone applied boolean algebra principles to Murphy's Law and came up with the law of duality. It incorporates the basic principle of Murphy's Law and states,"...of two possible events, only the undesirable one will occur." Continued research in this area has revealed that the Law of Duality also takes into consideration the desirability of any particular event or activity. The Law of Duality states that "...the probability of a given event occuring is inversely proportional to its desirability." However, there are shortcomings to these considerations because they do not reflect on the amount of effort which actually goes into the desirable activity. We must improve upon this and not only incorporate desirability but also amount of effort required to produce a particular event, "...the probability of a given event occuring is inversely proportaional to its desirability multiplied by the amount of effort applied." An equation for such a statement might look something like this: P = 1 / D x E. I believe this holds true for the audit concept as it has operated in federally funded projects over the past four years.

This development of the Murphy Law concept indicates that people generally have not taken into consideration the perversity of human beings. The ultimate consideration is to add a human perversity factor to the equation. This factor would be described as follows: "Any human subject, regardless of position or configuration, may be expected to perform at any time in a totally unpredictable manner." When this factor is added to the already modified Murphy's Law we can call it the Universal Field Theory of Perversity; "The probability of an event occuring is directly proportional to the perversity of the human subjects involved and inversely proportional to the product of its desirability times the effort expended to produce it." The equation would be diagramed as follows: P = P / D x E. My contention is that there is belief among many program auditors that the Universal

Field Theory of Perversity is alive and well and that is has manifested itself over the past four years during the birth trauma of the program audit concept.

In an attempt to deal more directly with the seminar topic, I mailed a short questionnaire to a sample of project people (n less than 200). The several questions that I asked on the questionnaire were pertinent to a) what has happened in audit, b) where is it going, and c) what do you believe are some of the future expectations? I selected five of the major questions where I think the responses were significant. The questionnaire was mailed to project people, Project Directors primarily. Most of these project directors have been involved with the audit concept since its inception four years ago and its application in federally funded programs.

First question of significance: "How did you deal with audit reports the first few times you read them?" Generally, the responses fell into these broad categories: "a) I used the reports as a guide to help overcome the discrepancies in the audit, b) I filed them away, c) I used them as information about the project, d) I compared the report with the audit plan, e) I felt intimidated, and f) I considered it as a useful monitoring tool." These are, in essence, people that are experienced in the program audit process.

The next question was, "How do you use these reports now?" The results were generally very positive. One of the respondents indicated he continued to use them to help overcome discrepancies in the project. The man "...who filed them away," said that he now discusses them with his staff before filing them away. Others indicated that they use them for modification of the project plan. The respondents who felt intimidated generally said they now view the audit process as a cooperative effort designed to help people in project work.

The next question asked the respondent to comment on whether or not, based upon experience, educational program audit really has any value? Everyone answered this item with a yes response but did not give reasons for their answer. A question directly related to value asked the questionnaire recipients if they envisioned that there is a possibility the audit process could be applied to other education offerings within the local school district. Everyone responded yes to this item also. Their description of the types of activities or events that they thought the audit process could be applied included almost every category at the local level.

"Do you think program audit could ever replace evaluation?" was another question in the instrument I sent to experienced project people. Thirty-five percent of the respondents said no. Fifty percent said they received more valuable data from the program audit than they did

from their evaluation. Seventeen percent said that they did not know whether program audit could ever replace evaluation.

The final question, "Based upon your first hand experience, what do you honestly believe will be the future for Program Audit?" The answers received were catagorized as follows:

> There were those who answered yes, that it could be successfully implemented at the LEA level,
>
> Some respondents said it should be adopted but that educators are not really interested in measurable results and that it will probably inhibit the process,
>
> Some indicated it will not be supported by teachers and teachers unions,
>
> Many indicated that it will improve the theory and practice of evaluation,
>
> There was a category of people who felt that the bureaucracy will give no credit to the program audit concept as a useful tool in educational administration,
>
> Several respondents felt that program audit or the education accomplishment auditor would become a consultant type person used on an on-call basis. When a need appears to bring in someone to do an audit activity, there will be a directory of qualified people that will be asked to provide the required service.

In considering these responses to the questions posed and the nature of the responses from experienced project people (as well as consumers of program audit products) I would have to say that my belief is that program audit will be adopted at the LEA level and it will become a regularly functioning program. However, there are a few obstacles to be overcome and some procedures which must be implemented in terms of the consideration that we have to give to the development of program audit at the local level. There are some important items to look at. These are the requirements which will make program audit viable at the local level. State departments of education do not need to be as concerned in these areas when they implement program audit for statewide programs. Local districts desiring to reap the benefits of program audit will have to adopt all or most all of the following items.

Increase Scope of Activities - Program auditing procedures presently being utilized in federally funded programs do not utilize a

large enough variety of techniques capable of completely engulfing the many activities occuring within the LEA. Experience has shown that while many techniques are available to the program auditor, his commitment to vague generalities in poorly worded contracts do not always demand the application of his full range of expertise and talent. LEA adoption of program audit would require broader utilization of those techniques which provide better information for decision making purposes.

Incorporate Technical Assistance - When the requirement for the program auditor to "certify" findings is removed it will then be appropriate to allow the auditor to offer a certain amount of technical assistance. The talent presently required of a program auditor is totally wasted because it cannot be made available to the local decision making process per federal guidelines. It is a valuable resource to the LEA and should be utilized when and where it is appropriate. The amount of technical assistance which would be acceptable and not jeopardize the auditor's objectivity would have to be mutually agreed upon.

Increase Responsiveness - Timelines of program audit should be governed by local program requirements for decision making and not by arbitrary dates established prior to implementation. Experience has shown that every on-site visit reveals important findings to the program auditor which should be made known to project staff. Problem areas should be dealt with immediately and not have to wait for resolution two months later when a report and formal discussion are scheduled. On-going program audit at the local level would have to be responsive to local needs as determined by operational standards and professional concern at all levels for increasing the programs potential for success.

Increase Program Auditor's Credibility - When the requirement for the program auditor to "certify" findings is reviewed, it will also increase the auditor's credibility at the local level. Program auditors will be retained by local school districts on the basis of previous jobs well done, on the basis of relevent qualifications, and on the basis of offering realistic solutions to problems in order that they can be handled quickly and effectively. Programs of a rather unique nature as well as on-going curriculum activities need operational assistance rather than verification of existing problems. The school district which can rely heavily upon program audit findings will do so because it has retained an auditor with high credibility as well as the fact that the credibility of the concept locally is also high. Local monies will more readily be spent in support of an activity that provides a high rate of return for the dollar invested. Credible program auditing can easily meet this requirement.

Include Program Audit as Line Item in Local Budget - Local districts experiencing positive results from their on-going program auditing activities will tend to include a provision for its continued operation in each annual budget. Such a provision should identify a small percentage (2% - 5%) of a larger figure, i.e., total cost of instructional services, so that as the district grows (or shrinks) the amount to be spent for program auditing remains in proportion. Successful incorporation of the program audit concept into the local comprehensive educational system will require budgetary reoccurrance on an annual basis rather than making a new decision each year on whether or not to continue its application.

Change Program Audit Focus Each Year - Require the program auditor to examine a different program or operational aspect of the local system each year. Creation of a cycle so that the entire system of activities, both administrative and academic, are reviewed every three to five years will provide the greatest impact for the least amount of money. And it will eventually focus program audit activities on all aspects of a school districts instructional offerings. By subject matter, by grade, by instructional departments, by administrative structure; any of these breakdowns would lend themselves to re-occuring program audit.

Maintain Program Audit as an Outside, Third Party Function - All local administrators know that someone removed from the district and its influences will offer more constructive observations and findings than could ever be provided by local personnel. As an outsider to the school district, the program auditor can make observations of a more direct nature, he can bring into play his experiences in working with other systems, and he can focus upon the pertinent facts and related activities more quickly. Less time is consumed in couching statements in order to preserve friendships and the findings, technical assistance, and related impacts come to focus almost immediately.

Ralph Nader is an auditor of sorts! And while I am not suggesting that the adoption of program audit at the local level be modeled after his own specific approaches to industry and government shortcomings, I do think it would be interesting to consider for a moment how he might undertake such an activity. One of his "audit" reports would probably read something like the following.

> "In the past years I have spent a great deal of time and energy bringing to the attention of the American public deficiencies in the products of our business world. It has recently come to my attention that the "education business" is larger and more extensive than GM and Ford combined! In addition, it is clear from a brief initial

survey that most of your products are poorly constructed, contain shoddy workmanship, and in many cases are hazardous to the well being of society. In an examination of public school products, they were found to have the following defects:

1. A majority of the units read poorly and cannot do simple math.

2. Almost all units dislike reading and math.

3. Almost all units dislike school, teachers and principals.

4. Few units, if any, are in a condition to start work directly off the assembly line.

5. Almost half of your products are rejected as defective before completion.

6. Almost all units have lost their love of learning.

7. Most units have a poor understanding, and almost all have no practice in democratic principles and actions.

We cannot understand this product performance, because your raw materials come to you in splendid form. Almost every unit has learned to talk (a very difficult feat) by himself; almost every unit loves to learn new things; almost every unit looks forward to learning in school; almost every unit has a fantastic capability to learn. We cannot justify your product performance, especially in the light of your production schedule. What other business spends eight hours a day, five days a week, 36 weeks a year, for 12 years, working on a product? This is ample time to produce a high quality, finished unit.

In two weeks I am sending three of my "raiders" to your school for a product audit. Since you are a public institution, my staff will expect you to make available to them:

1. Complete financial records for your products and complete performance records of them.

2. Complete statements of your product goals and

objectives, statements of how you intend to reach these goals, and statements on how you know when your product is completed.

3. A listing of your product defects and your procedures for correcting your mistakes.

4. Free access to your workers and products, so we can assess their feelings and their likes and dislikes concerning your school.

Don't try to bull my "raiders" into looking at buildings, grounds, new classrooms, swimming pools, the football stadium, or the new auditorium. Don't give us your rhetoric of office. Your company will be judged only on the basis of your product and the cost of producing that product.

Following our educational audit I will be placing your company on public record. I will compare your raw materials with your finished products. I will compare football expenses with reading program expenses. I will compare the salaries of your workers to determine if top learning priorities are being supported. I will examine the lives of your rejects. I will compare your actions with your words.

Get ready. I am coming.

Sincerely yours,

/s/Ralph Rader"

Those of us who have been conducting educational program audits since they were first required in certain federally funded programs in 1969 would have to announce that, based upon our experiences, we "...have some bad news and some good news."

First, the bad news: In many instances the utilization of the program audit concept was limited to game playing. While it is not necessary to review the reasons for which program auditing was crucial to the "games people play," it is appropriate to recognize that any shortcomings identified with the audit concept can be traced directly to a particular type of game that was played for a special purpose. The more popular program audit games include the following.

"Get the Evaluator" - used in projects where poor evaluation procedures resulted in negative findings or the lack of any findings at all. Since the evaluator worked closely with the project staff and established many friendships it was the auditor and the audit

reports which were used to get rid of the old evaluator and justify the hiring of another.

"Here Come de Feds" - used in projects where little time was spent by school district staff in understanding what the program audit concept was all about. But audit was a definite requirement of the grant and the district wanted to display its auditor when the USOE project officer made an on-site visit. (Quality of program audit was not usually a consideration of local importance.)

"I Like You" - used by local project coordinators who had to meet a specific requirement of their program and tried to do a friend a favor. Absolutely no consideration given to capabilities or expertise. Many individuals tried their hand at program auditing the first two years as a result of becoming involved in this game. Many quit program auditing because they soon realized that it required specialized skills which they lacked.

"Help" - used by project directors who finally read their guidelines and discovered in January that their program audit report was due next month but they did not have an auditor. Considerable amount of panic involved in playing this game.

"Agree With Me" - used by project administrators and staff who desired outside concurrance with their own particular motives. Usually resulted in request to auditor for support of a particular decision rationale, hiring of special staff, purchase of unique equipment, or disagreement with evaluation finding.

"The Evaluation Report Is Late, But..." - used by projects which had evaluators who always produced their reports several weeks or even months late. Program auditor was always asked to get his report in on time to make up for the delay. (These sites usually had penalty clauses in audit agreement for late audit reports but none in the evaluation contract for late evaluation reports.)

The recognition of these and other games is important because it helps us to understand the types of thought processes which program audit must overcome if it is ever to be a viable process at the local level. Program audit is not a catch-up process, it is an on-going process.

Now, the good news: In all instances the utilization of program audit resulted in the early identification of real or potential problems. (This does not mean that all local staff were perceptive enough to deal with the problems -- only that they were identified.) It would be impossible to list the many and varied findings which have resulted from the utilization of program audit techniques. They

ranged from defective performance objectives to the selection, administration, and scoring of tests to the lack of payment to evaluators for services already rendered. Instructional staff, curriculum materials, consultant services, and project management were all upgraded in almost every project because of the influence of program audit. I have talked with many program auditors over the past four years and have never heard even one person say anything negative, based upon their experience, about the potential application of the program audit concept to programs at the local level.

The handout which I have provided allows us to focus upon activities of the local level to which I believe the program audit concept can be applied. It is based, in part, upon my own experiences, the experiences of other program auditors across the nation, and a general understanding of how local school districts currently function. It is a comprehensive model representing the planning, development, implementation, and operational aspects of every school district regardless of size.

I call your attention, first, to the major areas of focus for program audit as indicated by the starred items. The program auditor could greatly assist the local school district as consideration is given to the following major areas.

Determination of Goals

Identification of Needs Priorities

Definition and Analysis of Problems

Development of Performance Objectives

Development of Evaluation Designs

Development of Process Objectives

Assignment of Resources

Implementation of Program Evaluations

Analysis of Data

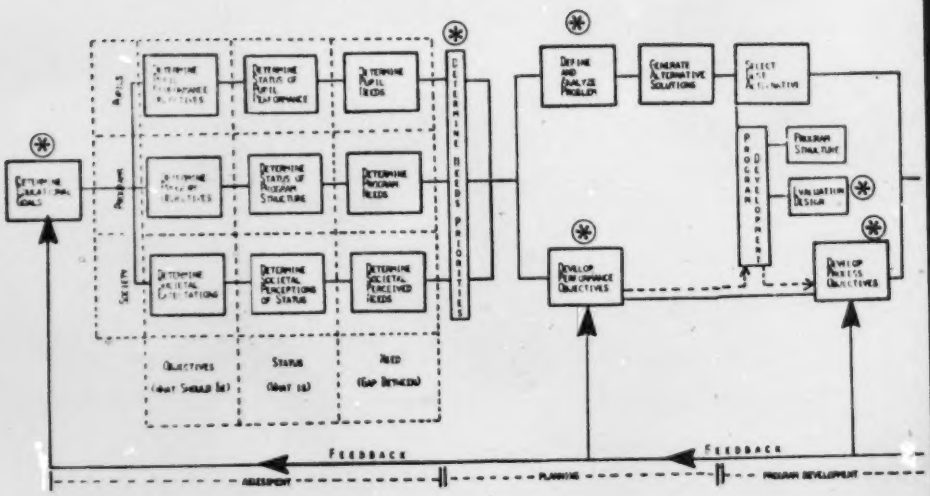
Provisions for Feedback

Now scan the entire model and identify those sub-areas where specific audit techniques could be applied during the operational year. The possibilities are almost limitless and the potential for the benefits which could accrue from the application of program audit in these areas challenges the imagination. I suggest to you that it

ADOPTION OF EDUCATIONAL PROGRAM AUDIT INTO COMPREHENSIVE PLANNING

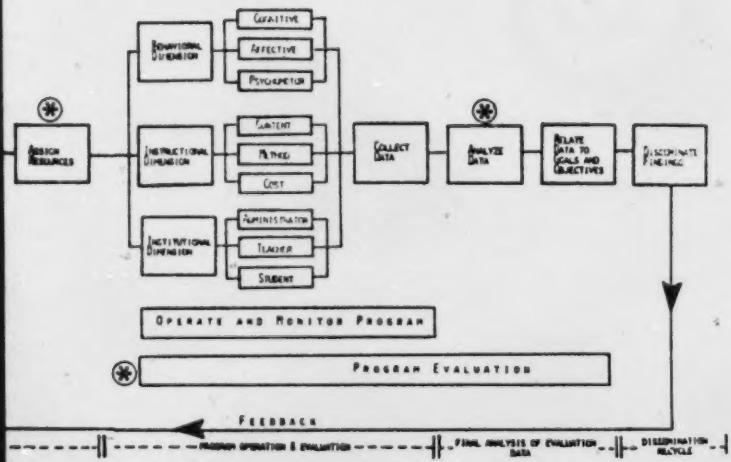
(Circa 1984)

(*) = Major areas of focus.



notes:

AND OPERATION OF GENERAL EDUCATIONAL PROGRAMS AT THE LEA LEVEL



is not a question of <u>can</u> program audit be applied to the on-going educational process but rather <u>where</u>. An it is not a question of <u>how</u> it can be applied but instead <u>when</u>.

The challenge of getting local districts to adopt program audit into their existing operational structure, however, is formidable, although there is little mystery to the factors which will tend to limit such undertakings. Specifically, the factors which must be dealt with include the following (in order of decreasing limit threat).

<u>Understanding the Concept</u> - This is currently the greatest inhibiting factor to local adoption of the program audit concept. The benefits which can be realized are not well understood.

<u>Availability of Funds</u> - Local adoption need not require spending of large sums in order to test the feasibility of such an undertaking. However, some commitment will have to be made initially and the funds involved thoroughly justified. A clear understanding of the concept must preceed the consideration of financial support, even on a trail basis.

<u>Administrative Structure</u> - Superintendants and other administrators need program audit findings in their planning activities as well as in carrying out their day to day responsibilities. Those local administrative structures which inhibit the flow of information will also preclude any positive impact of the program audit process.

<u>Interpretation of Intent</u> - Closely allied with an understanding of the basic program audit concept is the intent as perceived by administrators, teachers, parents, students, and others. The adversary role must be played down and the supportive benefits emphasized. Some individuals will always remain threatened and become a limiting factor in any local application of program audit.

<u>Level of Effort</u> - Local requirements will determine the funds and manpower to be made available for program audit. This will also determine the magnitude of the entire undertaking. The concern is that any initial attempt at local application of program audit be extensive enough to provide for an adequate test but not be so small or large that it is destined to fail right from the onset.

<u>Local Support</u> - As with all new program activities, there is need for local support; administrative and professional staff, community, and business and industry. The state education agency should be involved to some degree, also. Lack of any/all of these types of support could be detrimental to a successful audit.

The conclusion to my presentation provides for some predictions on the future of program auditing. My staff and I have carefully analyzed where we have been in our program auditing work, the general nature of the responses to our audit findings, the types of impacts we have observed, and the comments of our fellow auditors. We have also reviewed our understanding of the administration and operation of local school districts as well as the current concepts which are currently in vogue at the state and local levels. The following predictions are a direct result of these analyses.

Program Audit Will Be Adopted By Local Education Agencies - although the extensive use of program audit will be determined by initial understanding of the concept and the impact of the first year of operation.

Program Audit Will Be Refined and Made More Responsive To Local Needs - this will be determined by perceived local needs and willingness of auditors to work with local school districts in the initial stages.

Qualified Program Auditors Will Be Identified - this will probably occur at the state level and involve a process other than "certification". Although local districts will tend to establish their own qualifications and select auditors accordingly.

Program Audit Will Be Confused With Validation - the present trend of some state departments of education to develop a validation capability will eventually give way to the adoption of more meaningful program audit techniques and the development of their own program audit staffs modeled after state departments currently experiencing success in this area.

Program Audit Will Become A Direct Means For Supporting Local Accountability Requirements - since program audit was originally developed as part of the accountability model it is only natural that it will eventually be recognized as an expediency to pro-longed evaluation and expensive cost-effectiveness.

Program Audit Will Have Its Greatest Impact At the Local Level - state departments of education will utilize program audit to expedite the handling and reporting of federal funds. Local school districts will be required to be more responsive to identified needs and program audit will become the most direct and factual mechanism for reporting to the local taxpayer.

Let me close by reading from a publication dated 1896 and developed by the Inland Revenue Department, England. This is a sign that was posted over the desk of every auditor.

"The Government are very keen on amassing statistics. They collect them, add them, raise them to the n^{th} power, take the cube root, and prepare wonderful diagrams. But you must never forget that every one of these figures comes in the first place from the village watchman, who just puts down what he damn pleases."

THE ROLE OF AUDITING AND VALIDATION IN THE MICHIGAN ACCOUNTABILITY MODEL

C. Philip Kearney

I am delighted to be here this morning as a representative of Michigan's State Board of Education and the Michigan Department of Education, and to serve as one of the presenters in this National Symposium on Educational Accomplishment Auditing.

The fact that the planners of this symposium would invite a representative of a State Department of Education to serve as a presenter supports, I think, the generally held perception that those sleeping giants-known as State Departments of Education- have awakened and are stirring about. Most observers of the national educational scene probably would have to conclude that, in the past two or three years, many state agencies have radically altered their time-honored posture - moving from essentially passive roles to roles of aggressive leadership and strong advocacy. In Michigan, those of us who are optimists claim that these changes have been successful in bringing about a state of "creative tension" within the state's entire educational system. Needless to say, the non-optimists express other views.

When Peter Stoychuff contacted me some weeks ago, he asked if I would take as my topic, "State Departments' Current and Future Utilization of Educational Accomplishment Auditing." I agreed to do this only after some hesitation on my part because of my own sense of inadequacy in the area of educational auditing - and my feelings of inadequacy grew when I later reviewed the program for the symposium and saw the listing of impressive and experienced talent that had been lined up as presenters. I now find myself travelling in some fairly fast company - at least as far as educational accomplishment auditing goes - and my reluctance to speak on the subject and reveal my own lack of expertise has increased accordingly.

I find my circumstances somewhat similar to that of the small bird [illegible] subject of a brief story I read some time ago. The story [illegible] "A Philosophical Fable." It is called a philosophical [illegible] I suppose, because it has a moral to it - in fact, it has [illegible] - and, as I indicated, seems quite appropriate [illegible] today.

It ain't necessarily your enemy . . .
It ain't necessarily your friend . . .
When you're in it . . .

On a more serious note, I would like to do three things this morning. First, by way of setting the stage for my remarks, I would like to take a few minutes to discuss the concept or notion of educational accountability as we in Michigan view it, and briefly describe for you the six-step process recently adopted by the State Board and the Department - and known generally as the Michigan Accountability Model.

Second, I would like to spend some time talking about what I think is fast becoming the most critical step in the model - namely, step six, recommendations for improvement, and discuss what we are doing to meet this challenge. It is in carrying out this step that I think the auditing and validation functions will have to play crucial roles.

Finally, because this is a symposium, I would like to provide some time for us to interact - for you to question or comment on my remarks and for me to expand on them.

Accountability

Let me turn first, then, to the concept or notion of accountability. Accountability, I think, has become, in many ways, a catchword - a new "buzz-word" added to the jargon of education. And, like most "buzz-words," it means different things to different people--and, sometimes, all things to certain people. We tend to use it freely in our conversations, but seldom bother to clearly define what we mean by it. Those of you who are students of the history of education in this country perhaps have read the excellent book by Raymond Callahan entitled, Education and the Cult of Efficiency. In this book, Callahan describes the efforts made in the early 1900's to apply the concepts of the scientific management movement in industry and the skills and techniques of efficiency experts to the field of public education. Indeed, I have often thought that some later day historian will soon be writing the sequel and entitling it, Education and the Cult of Accountability.

My remarks are not intended to disparage the notion of accountability, but rather to point out the necessity of clearly defining the term and then utilizing the concept in a positive and productive manner.

Now, then, have we in Michigan defined accountability? We see the concept as having two essential dimensions. The first is: access

to information about performance - whether it be the performance of a pupil, a teacher, an administrator, a local school system, or - for that matter - a state school system. The second dimension is: ability to change those factors thought responsible for unsatisfactory performance - in short, the authority or power to alter conditions. And unless these two dimensions are present in any relationship, we would suggest that no accountability really exists.

Six Steps Toward Increased Accountability

Using this concept as a working definition, we recently developed and adopted a six-step process - known generally as the Michigan Accountability Model. We are using the process ourselves and encouraging its use by others as a tool for achieving increased accountability in education. The six basic elements or steps in the process are:

The Identification of Common Goals
The Development of Performance Objectives
The Assessment of Needs
The Analysis of Delivery Systems
Evaluation of Programs
Recommendations for Improvement

Accountability, as we have defined it, requires first that we have an answer to the question, "What is it that the schools should do? What is it that schools should be held accountable for?" The first two steps in the Model - the identification of common goals and the development of performance objectives - are designed to provide answers to this basic question. The third step in the Model - which calls for an assessment of needs, addresses itself to the question, "Where are we in relation to our goals and objectives? What are our unmet needs?" The fourth step calls for an analysis of existing delivery systems or programs, including the exploration of alternatives. The fifth step - closely linked with step four - requires the evaluation and testing of existing programs, or newly developed programs, to determine if they are successful in achieving their stated objectives. The sixth step follows logically - namely, what suggestions and sound recommendations can be made for improving our delivery systems so that pupil needs are better met and the schools progress toward the attainment of their goals.

The Identification of Common Goals

In step one, our aim was to set forth a common set of purposes toward which all public schools in Michigan should be working.

We proposed - and indeed found out - that the common aims of Michigan's public schools could be identified and that consensus could be reached among educators and lay citizens as to what these common aims are or should be.

Following a lengthy process of involvement with educators and lay citizens throughout the state, the State Board, in September of 1971, adopted a statement known as The Common Goals of Michigan Education. We believe that these goals can and will serve as statements of broad purpose and general direction for Michigan's educational system.

The Development of Performance Objectives

Now statements of broad purpose and general direction - goals of education - most often tend to become useless and end up gathering dust on bookshelves unless a second and important step is taken - namely, translating these goals into measurable objectives. The question, "What is it that schools should do?" needs to be asked and answered not only in general terms, but also - and perhaps more importantly-in very specific terms.

The purpose of step two, then, is to take each goal - which by definition is a statement of broad purpose and general direction - and translate the goal into a set of specific and measurable objectives.

I am pleased to be able to report to you that we are making considerable progress in this area. We now have sets of minimum performance objectives in several subject matter areas for grades kindergarten through nine. Furthermore, items drawn from these objectives are being developed and pretested for inclusion in the 1973-74 and subsequent years' statewide assessment batteries - which will be, for the first time in our experience, objective-referenced instruments rather than standardized norm-referenced tests.

Assessment of Needs

As I indicated earlier, step three, assessment, addresses itself in our Model to the question, "Where are we in relation to our goals and objectives?" It is in this area that we perhaps have made the most progress - and perhaps have achieved the most notoriety - through the full-scale implementation some four years ago of an annual statewide assessment program administered initially to all pupils at grades four and seven in the basic skills of reading, the mechanics of written English, and mathematics.

In general, we see the assessment effort serving two basic purposes at the state level: (1) it can provide information to help in making decisions regarding the allocation or distribution of resources; and (2) it can provide additional information to help in making decisions regarding the structuring or setting up of major educational programs. At the present time, one specific use of the information at the state level is the identification of students' needs for the purposes of allocating some $22.5 million in state compensatory education funds, under Chapter 3 of our State School Aid Act.

The fourth step, delivery system analysis, investigates the ways the system, at all levels, uses its human, financial, and other resources throughout the entire range of its programs to respond to student needs. In this step we are concerned with analyzing, if you will, the "mix" of buildings, books, materials, people, methods, and other resources that go to make up identifiable programs and projects.

Evaluation

Closely allied with step four, is step five - evaluation. What works? What conclusions can be drawn about the effectiveness or successes - or lack of successes - in any of our several programs - be they at the state or local level? We have committed ourselves to making evaluation of programs in Michigan education more than the useless "exercise" which - according to Egon Guba - many school people would define as:

> Something required from on high that takes time and pain to produce but which has very little significance for action.

Recommendations for Improvement

The sixth step in the Board's program, proposing recommendations, draws on all five of the previous steps and is intended to provide specific answers to the question: "How can Michigan's educational system be altered so that it is truly responsive to the needs of all those it serves?" The Common Goals outline the general areas in which the system must direct its efforts. The performance objectives give the specifics of student needs. Assessment measures the degree to which the student needs are being met. Delivery system analysis examines the ways in which the system responds to these needs. Evaluation draws conclusions about the effectiveness of the system's responses. In the sixth and final step information provided through each of these five activities is assembled and forms the basis for

proposing recommendations for specific changes in the system.

As I indicated earlier, we consider step six to be the critical step in the process. It is what the entire effort is aimed at - namely, improved education for the children and youth of Michigan. And the proof of the pudding is going to be whether or not we can carry out step six in a meaningful way.

In our new role of aggressive leadership and strong advocacy, I think the Department has had some successes in helping to develop an increased awareness - perhaps even a painful awareness at times - among Michigan's school people, parents, and other citizens of the shortcomings of our educational system - of the many needs that are yet unmet. Indeed, we might say that we have been successful in bringing many persons to the "teachable moment." But I don't think we have yet developed a capability to teach - or as someone so aptly put it - to "respond substantively" to the questions and queries of educators and other citizens who are saying, "We know our present delivery system is not totally adequate, now what can we do about it? What will work? What are some tested and proven practices?"

This issue is crucial and we recognized this early in the game. We also recognized that the alternatives were quite clear. Either we had to move rapidly to develop a capability to provide substantive responses, or all of our efforts would be meaningless and later day historians would chronicle our current activities in Michigan as one more panacea that didn't work, one more bandwagon whose music went flat. If we could not come up with a workable mechanism for identifying, validating, and effectively disseminating information regarding tested and proven practices, then all our efforts ultimately would be in vain. Rhetoric, cliches, vague ambiguities, and telling people how good things are going to be won't do the job.

Our response has been to create and begin to implement an experimental and demonstration centers program. Our goal in this program is to advocate and stimulate a Michigan-wide cooperative process of educational change that will lead to ongoing improvement in all of our schools.

To reach this goal, we are doing five things. First, we are advocating development of experimental programs that hold promise of efficiently solving educational problems that are related directly to student performance. Second, we are concentrating our resources on a limited number of selected problem areas in a limited number of centers. Third, we are attempting to develop a means of validating and disseminating the most effective experimental programs. Fourth, we are attempting to link the validated practices from the experimental centers to demonstration centers so that the demonstration centers

can serve as models for the state. Finally, we are taking steps whereby we can identify current and successful practices operating throughout Michigan - and then, hopefully, begin to serve as an information clearinghouse for local school people.

I must emphasize that we intend to do more than identify promising programs; we intend to identify successful and proven programs - programs that have been thoroughly documented, and thoroughly evaluated, and whose success is supported by hard, objective evidence.

And this is where we see the auditing and validation functions playing a critical - if not the critical - role in our efforts. While our use of educational accomplishment auditing is presently limited to some six state-funded performance contracting projects, certain of our federally-funded programs, and some beginnings in our own state-funded compensatory programs, we are taking steps to expand the auditing effort in the immediate future. For example, we are seriously considering implementing a requirement that all of our categorical projects employ the services of an external auditor.

But rather than talk to you specifically about auditing per se - which I really am not qualified to do and of which you have had a steady diet for the past three days - let me share with you some of our thinking and current plans, and the problems we are encountering in trying to build a system for identifying, screening, and certifying the results obtained by an educational delivery system.

I am certain that all of you are aware - as we have become aware - that the development of a validation process is a complex task and one that does not lend itself to easy solutions.

One major problem, at least for us, deals with definitions and their underlying assumptions. Let me take a few more minutes to test out with you - now that you've become experts - several of our working definitions and also discuss briefly the assumptions underlying these definitions.

Delivery Systems

First, let me attempt to explain further what we mean by the somewhat MacNamarian term "delivery system." In our scheme of things, a delivery system is a method of providing services to clients and is made up of five interrelated components:

First, a delivery system has an identifiable organizational structure which represents the way in which people and decision-making authority are arranged in a particular setting for the purposes of

providing services to clients.

Second, it has an identifiable methodology, or methodologies, which speak to the specific materials and procedures which are used by personnel and which can be documented as having direct influence on clients.

Third, a delivery system has its terminal objectives or desired client behaviors specified; the exact behaviors to be attained by the delivery system are spelled out precisely in terms of performance objectives.

The fourth component with which we are concerned is the facility, or facilities, necessary to house or provide services to clients, including buildings, rooms, transportation, and so forth.

The fifth component we call the cost economic factor; here we are attempting to relate expenditures directly to the services provided. This would include the specification and documentation of personnel costs, facilities costs, materials costs, transportation costs, fixed costs, and other costs. We also may decide to include additional economic factors such as relative economic status and assessed valuation which we think might be appropriate for an analysis of the setting in which the delivery system exists.

I should emphasize that we consider the documentation of appropriate cost/economic factors as critical if an effective analysis and validation is to be conducted.

I also should note that a delivery system, as we have defined it, may be operating at any one of six levels: (1) the state level; (2) the intermediate or regional level; (3) the local district level; (4) the school level; (5) the classroom level; and (6) the pupil level.

We also have assumed, for purposes of our definition, that delivery systems are discrete measurable units of service that can be subjected to analysis both from documentation provided to the Department and from data collected through onsite visits by teams of appropriate experts.

Now that I have described what we mean by a delivery system, let me also offer you our working definitions of four additional terms: monitoring, evaluation, auditing, and validation.

Monitoring

Monitoring we have defined as the collection of process data. We

are assuming that a monitoring process will facilitate the collection of process data for each of the five interrelated components of the delivery system. In most cases monitoring will be conducted by the various Department specialist staff and will occur in a systematic way, such as individual consultations or onsite team visits throughout the operational year.

Evaluation

We define evaluation as the determination of the effectiveness of an implemented delivery system for the purposes of providing information to educational decision-makers. Inherent in our definition of evaluation is the assumption that evaluators provide information relating to delivery system effectiveness to delivery system managers in an effort to enhance rationale decision-making. Evaluators themselves do not make program decisions but rather provide data on program effectiveness and identify variables that appear to enhance or impede the success of delivery systems.

Auditing

Auditing, for us, is the process of assuring compliance with rules and regulations and assuring the accuracy of the evaluation data reported from each component of the delivery system.

In our thinking, auditing differs from validation in emphasis rather than concept. For example, auditing emphasizes compliance and the audit process usually begins when the delivery system begins. Validation, on the other hand, reviews and verifies final results and would occur at the conclusion of the delivery system. In other words, validation, for us, is the last step of the audit process. I guess we would agree with the observation that auditing has to be primarily a local function - while the state's proper purview is validation.

Validation

Thus we have defined validation as the process of reviewing an educational delivery system in its entirety to verify the accuracy of the results.

The overarching theme of our present efforts to implement a validation process is to review and verify those delivery systems that have been judged successful in meeting planned objectives. While it may be desirable to validate all delivery systems, we feel that our current emphasis on success is justified, if for no other reason than

the limited resources available to implement a validation process and the utility - for us - of identifying "good" delivery systems.

Once we resolved the definition problem - at least tentatively - we immediately experienced three additional problems in attempting to implement a Department validation process during the 1972-73 school year. First, because we have not had delivery systems validated in the past, we know that many of these systems simply will not have data available for their various components. We do have considerable product or performance data, but documented process data will not be plentiful. A subset of this problem is that product data will not be available from the delivery systems until mid-summer.

The second problem concerns the various service areas in our agency who would participate in the validation process. At present, different service areas (and programs within service areas) present product or performance data in a variety of ways. There is a common reporting format under development, but as of this time it is not available for widespread use within the Department. This particular problem restricts the programs that will participate in the first round of the validation procedures.

A third problem concerns time and money. We feel that it is important to have at least several delivery systems validated by the end of August, 1973. Yet we know that delivery systems have to be identified and screened; independent team(s) have to be selected and trained; local school people have to be briefed; a validation form must be developed; and finally, final validation reports must be written and published.

Yet, in spite of these and other problems, we are currently undertaking the implementation of a validation process for this year, but only on a limited pilot basis. Only FY 1973 projects will be involved. This will allow our staff to work with the most current delivery systems and the most up-to-date data. Only two of our service areas - Compensatory Education Services and General Education Services - will take part. Under compensatory education, four delivery systems will be involved from our Title I program and four delivery systems will be involved from our State Compensatory Education Program. Within General Education Services the experimental and demonstration centers program also will select four delivery systems. The selection of only the twelve delivery systems was considered necessary in order to keep the scope of the validation process within available resources. In addition, during the past year, staff in these program areas have conducted extensive onsite reviews of many of the delivery systems and we hope that, as a result, the data base for each of the nominated projects will be adequate for validation purposes.

Let me beg your indulgence and take just a minute or two more to lay out the minimum standards that we have established for the

identification of projects to be validated.

First, the delivery system must have been in operation for at least one year. The importance of the time consideration cannot be underestimated, for our experience tells us that delivery systems which have been operational only for short periods of time tend to produce unreliable results.

Second, the delivery system must have evidence that behavioral change has occurred in the client population under consideration. If evidence of behavioral change is not available, the delivery system will not be accepted for validation.

The delivery system must be able to provide documentation for each of its components. This includes a description and analysis of personnel and decision-making authority; examples of all the specific materials, methodologies, and/or procedures that are having or producing results on clients; a list of all performance objectives, including examples of all measurement instrumentation used in the delivery system; a description and analysis of the facilities in which the delivery system is housed or which the system utilizes; and, finally, documentation on cost and economic factors that are related to the delivery system.

In spite of the many difficulties inherent in such an effort, we are making every attempt to initiate a validation process this year on a pilot basis. You might say that we are rushing in where angels fear to tread. But we think the piloting aspect will afford our staff an excellent opportunity to work out the difficulties and, hopefully, make recommendations for a fully implemented 1974 validation procedure.

In many ways, my presentation today may be a year early, I would much prefer to be here a year from now to share with you our successes - and or failures.

We are well aware that we've made only a start in the direction of developing and implementing a meaningful validation process. We know that much remains to be done. But our commitment is to successfully carry out step six of the Michigan Accountability Model - and that means moving from a posture where we are always talking about how good it's going to be, to a posture where we can talk about what's been done successfully and effectively. In short, we are committed to developing a capability to deliver substantive and meaningful answers to the questions, "What can I do? What works? What are some tested and proven programs?" And we know that the proof of the pudding, the proof of the Michigan Accountability Model, rests on developing and implementing such a capability.

SYNTHESIS

Desmond L. Cook

As stated in the Preface, the symposium was created with a view to examining the initiation of the Educational Audit Concept, to assessing its present condition, and to forecasting the future of this educational innovation. It is the intent of this section to try to sort out of the many comments and points made in the several papers those ideas which seem to stand out and provide a focus to the state-of-the-art with regard to auditing.

What is presented in this part of the proceedings are to a large degree the perceptions of one man derived from participation in the symposium. Each reader of the papers in these proceedings as well as those in attendance at the symposium would be able to draw their own set of ideas. The views contained in this section therefore do not reflect any particular position of the symposium nor of the speakers or participants.

Our task was to take a look at auditing in terms of how it started, where it is now, and where it might be going. Like Martin Luther King, Leon Lessinger had a dream. His dream centered upon the need for a quality control system; some kind of management feedback loop. This was in a sense at the heart of his concept of accountability. The major benefit was to be improvement and change in education. As with other areas of living, creating the thought leads to the necessity for procedures and practices. Saying we are going to have auditing is one thing but very few persons knew what an educational audit really was, what it was supposed to be like, or really what was supposed to be done. The historical development of the concept in practice was the major thrust of the symposium.

Reviewing the several papers, listening to the speakers, talking with the participants, and engaging in a general looking back over time, several main ideas do seem to stand out. Accepting the danger that comes with both selection and categorization processes, these ideas can be grouped into two sets. One set focuses upon agreements while the other deals with problems and issues. Let us turn first to what appear to be some agreements.

Agreements

It is posited here that three major points have agreement. They are the acceptability of the audit concept, procedures and techniques, and training practices.

There appears to be little question, at least among those present at the symposium, that the concept of the Independent Educational Accomplishment Audit concept has gained acceptability within the educational community. It was received initially with some fear as might have been expected. As time went on and idea became reality, many persons saw its value and incorporated it into different arenas of operation such as accountability models, evaluation activities, and management training. Apprehensions developed when the audit concept was first encountered but as time moved on the value of the practice became more visible to a larger number of people. While mandatory initially on certain programs, many educational agencies have subsequently moved to incorporate the concept into new areas and to encourage its use as witnessed by the adoption of the audit practice by many state departments of education.

It is stated that necessity is the mother of invention. Having initiated auditing, there was a need to develop or invent procedures. Some auditing models, particularly of a financial nature, were available but there was hardly any past practice upon which to draw. Many man-days went into the conceptualization and construction of audit procedures and processes. Relationships between many roles and agencies had to be clarified. From these efforts, we emerged with two excellent handbooks and a series of provocative position papers. It is now possible to be directive about how an audit should be done, how contractual arrangements are to be made, and how to judge the quality of an audit itself. None of these are not without their problems but enormous strides have been made over the past three or four years in this area of agreement.

If we lacked procedures, it is fairly safe to state that we also did not have people who could actually carry out the function. We did not have a full idea of the competencies needed or the training required. Time has provided us with some idea of the kind of skills required of an auditor. The nature of the task is such that it is not likely that any one man will possess all of the skills so team efforts become important. There is a greater knowledge today of the nature, type, and duration of training programs needed to provide the necessary personnel than existed at the start. We still have some discussions about whether or not audit personnel should be certificated like other professionals in education. Witness to the certification movement was given in this symposium. Others feel it is not yet desirable since the audit function overlaps with others such as the evaluation function. Training a person in one area is correlative with training him in the other. Due to the efforts of the Bureau of Elementary and Secondary Education of the Office of Education, there is now a pool of trained auditors available where no such pool existed four years ago.

Let us now turn to three problem areas. These are not viewed as areas of disagreement but rather as unsettled or unresolved issues. Perhaps succeeding symposium can explore each of them in detail.

Problems and Issues

While each of the areas of agreement perceived and noted above had its share of problems, there are some major points on which some focus is needed. Three such points are the nature of auditing, its implementation, and its empirical foundations.

Both the speakers and participants appeared to carry on discussions over a basic question relative to the objectivity or independence of the auditor. This question has relevancy for the nature of auditing. The major issue appears whether or not the audit is viewed as an attest or verifying operation or if it is a technical assistance procedure. Some feel that if the latter prevails the auditor loses his independence since he would often audit his own recommendations. Others feel that such assistance should be provided since our knowledge and practice in the area of evaluation can use all assistance possible. This writer is of the opinion that the principal and perhaps only function of the audit should be verifying or attesting to the evaluation results. Technical assistance in areas of concerns over choice of instruments, statements of objectives, management techniques should be supplied by the use of consultants and similar types of persons. Regardless of personal positions taken, the exact nature of the audit still has some resolution to undergo during the next few years if the comments in the symposium are considered.

It was noted earlier that the initial concept was made mandatory on certain ESEA programs. Thus, it was fairly easy to implement the concept. What might still be an issue is whether or not school districts or educational agencies will accept the educational audit on a voluntary or optional basis. Has the concept demonstrated sufficient viability and value that it would be welcomed as a valuable tool in educational practice. Regardless of its mandatory or optional condition, are school districts geared up to handle audit requirements and operations? Do they perceive sufficient benefits for any cost incurred? Since most of audit operations were funded from grant or project funds, we have little knowledge of how the concept would be accepted or operate once such funds are withdrawn.

A third problem or issue received only secondary attention at the symposium but in effect the entire symposium highlighted the issue. In its original installation, audit was viewed as being experimental. We are assessing it to some degree now. However, we know very little about auditing as might be derived from the conduct of research studies on the practice. Some attention was given to the value and utility of

the audit reports by one speaker. Another dealt with the validity of audit results based upon the sampling problems involved. Thus, there appears to be a fruitful area for educational researchers to enter. Perhaps a careful re-reading of the papers can lead to each of the speakers and participants to identify some topics or concerns to which research and energy could be given. Testimonials alone are perhaps insufficient evidence to make judgements about the value of auditing.

A Summing Up

It seems appropriate that the final speaker on the symposium should have returned us to the original remarks made by the initial speaker. Educators want to make some changes in the system, we need to make sure that such changes are actually taking place. Thus, we have the concept of accountability. Operationally, auditing was to be a vehicle to make sure that what we wanted to happen was actually happening. Auditing has grown out of its infancy and reached a level of maturity as evidence by the presentations at this symposium. Our concluding question is, where does auditing go from here? Perhaps we should reconvene in another five years and see where in fact the concept did go over the interim. This writer will for one be watching its progress and hopes that each of you will do the same.

APPENDIX A

Perspectives On Educational Accomplishment Auditing

Speakers

Dr. Bernard J. Cohen
President
Bernard Cohen Research and Development
24 Johnson's Lane
New City, New York 10952

Dr. Mark M. Greene
Director, Audit and Evaluation Section
Northwest Regional Education Laboratory
710 Southwest Second Avenue
Portland, Oregon 97204

Dr. C. Philip Kearney
Associate Superintendent for
Research and School Administration
State of Michigan
Department of Education
Lansing, Michigan 48902

Dr. W. Stanley Kruger
Special Program Director
Bureau of Elementary and
Secondary Education
U.S. Office of Education, DHEW
400 Maryland Avenue, S.W. Room 2181
Washington, D. C. 20202

Dr. Leon M. Lessinger
Dean, College of Education
University of South Carolina
Columbia, South Carolina 29208

Mr. W. E. Mellown, Jr.
Director Federal Programs
Alabama State Department
of Education
Montgomery, Alabama 36104

Dr. Alfred J. Morin, President
Alfred J. Morin and Associates
121 Third Street, N.E.
Washington, D. C. 20002

Dr. Daniel P. Norton
Evanston Office Research Director
Educational Testing Service
960 Grove Street
Evanston, Illinois 60201

Mr. Alfonso R. Ramirez
Director, Curriculum Division,
Region I - Educational Services Center
Project Director, Region I - Bi-
Lingual Project
113 South Tenth Street
Edinburg, Texas 78539

Dr. Richard Seligman
Associate Director
Center for the Study of Evaluation
Graduate School of Education, UCLA
Los Angeles, California 90024

Mr. A. Jackson Stenner
Vice President
The Institute for The Development
of Educational Auditing
1121 Arlington Boulevard
Arlington, Virginia 22209

APPENDIX B

Perspectives On Educational Accomplishment Auditing

Participants

Nathan Beale
4th and Clearfield Streets
Edison Project
Philadelphia, Pennsylvania 19133

Tom Benton
Department of Education
Tallahassee, Florida 32304

Sonya L. Blixt, Director
Bureau of Educational
Research & Services
Kent State University
Education Building
Kent, Ohio 44240

Dr. William Brooks
New Jersey Department
of Education
225 West State Street
Trenton, New Jersey 08625

William J. Caven
Northern California Program
Development Center
179 East 3rd Avenue
Chico, California 95926

Edward Chamberlain
Columbus Public Schools
52 South Starling Street
Columbus, Ohio 43215

James C. Crawford
Project Emerge
2013 West 3rd Street
Dayton, Ohio 45417

C. Peter Cummings
Research for Better
Schools, Inc.
1700 Market Street
Suite 1700
Philadelphia, Pennsylvania 19103

James A. Dillehay
College of Education
Wright State University
Colonel Glenn Highway
Dayton, Ohio 45431

Thomas E. Dinero
Evaluation and Measurement Program
Kent State University
Education Building
Kent, Ohio 44240

Richard Dragin
1989 Waltham
Columbus, Ohio 43221

Ann J. Dunkle
Center for Vocational and
Technical Education
1960 Kenny Road
Columbus, Ohio 43212

Earl M. Ellison
903 Sloan Avenue
Waldorf, Maryland 20601

Catherine Feike
Columbus Public Schools
52 South Starling Street
Columbus, Ohio 43215

George R. Fleetwood
State Department of
Public Instruction
Raleigh, North Carolina 27611

Ray E. Foster
Florida Department of Education
ESEA, Title III
219 West Jefferson Street
Tallahassee, Florida 32304

Duane Graham
State Department of
Education
Jefferson Building
Jefferson City, Missouri 65101

Gloria Gutierrez
Lincoln School
31st and Vine Avenue
Lorain, Ohio 44055

Rita Hegedus
Delaware Department Public
Instruction
John G. Townsend Building
Dover, Delaware 19901

Dr. Carl Hendershot
4114 Ridgewood
Bay City, Michigan 48706

Richard L. Hills
Sandusky County Schools
1236 Napolean Street
Fremont, Ohio 43420

Roger G. Iddings
College of Education
Wright State University
Colonel Glenn Highway
Dayton, Ohio 45431

Kyo Jhin
2603 Leeman Ferry Road, S.W.
Huntsville, Alabama 38801

Roberta Keiter
Montgomery County Public Schools
850 N. Washington Street
Rockville, Maryland 20850

Dr. James R. Larson
Sylvania City Schools
6801 Maplewood
Sylvania, Ohio 43560

Quentin R. Lawson
Mayor's Office - Baltimore
Educational Assistant
Holliday & Lexington Streets
Baltimore, Maryland 21202

Glenda Locke
Battelle Memorial Institute
505 King Avenue Rm. 11-5006
Columbus, Ohio 43201

Dennis McFadden
Battelle Memorial Institute
505 King Avenue Rm. 11-5006
Columbus, Ohio 43201

Dr. R. Luvern Marcum
Route 4, Box 67
Blackfoot, Idaho 83221

Patricia Mills
Bowling Green State University
Bowling Green, Ohio 43403

Edgar N. Morgan
Evaluation Section
San Antonio Independent
School District
1210 Guadalupe
San Antonio, Texas 78207

Siegfried G. Mueller
Board of Education
City of Chicago
3322 W. Catalpa
Chicago, Illinois 60625

Kenneth Pack
225 West State Street
Trenton, New Jersey 06825

Julie Pankopf
Pittsburgh Board of Public
Education
Washington Education Center
169 40th Street
Pittsburgh, Pennsylvania 15201

Fred L. Pigge
Bowling Green State University
Bowling Green, Ohio 43403

Wayne Pyle
Prevention-Intervention Project
Metro Public Schools
700 2nd Avenue, So.
Nashville, Tennessee 37211

Robert Reed
Bowling Green State University
Bowling Green, Ohio 43403

James A. Rowe
Dayton Board of Education
348 West First Street
Dayton, Ohio 45402

Thomas D. Scheid
State Department of Education
933 High Street
Worthington, Ohio 43085

Donald Schmidt
Project RAAP
122 N. Main Street
Centerville, Ohio 45459

Frank S. Scott
Ohio Department of Education
781 Northwest Blvd.
Columbus, Ohio 43212

Stanley M. Searing
Division of Planning and
Evaluation
Ohio Department of Education
65 South Front Street
Columbus, Ohio 43215

Jules Shrage
Oakland Schools
2100 Pontiac Lake Road
Pontiac, Michigan 48054

Arnold E. Skidmore
Ohio Department of Education
Division of Planning and Evaluation
65 South Front Street
Columbus, Ohio 43215

Calvin M. Smith
Columbus Public Schools
1825 Arbor Hill
Columbus, Ohio 43229

Paul E. Smith
Westlake City Schools
2282 Dover Road
Westlake, Ohio 44145

Floraline I. Stevens
Los Angeles Unified Schools
Research and Evaluation
8810 Emerson Avenue
Los Angeles, California 90045

John R. Stock
Battelle Memorial Institute
505 King Avenue
Columbus, Ohio 43201

Warren K. Waite
Placer Company
Office of Education
1230 High Street
Auburn, California 95603

Margaret Wehner
Columbus Public Schools
52 South Starling Street
Columbus, Ohio 43215

Robert Yonkers
Kent State University
1346 Allerton Street
Kent, Ohio 44240

Joe A. Young
Project RAAP
122 North Main Street
Centerville, Ohio 45459